Report of the World Panel on Financing Water Infrastructure

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Financing Water For All

World Water Council

3rd World Water Forum

Global Water Partnership

Global Water Partnership

As one of the Millennium Development Goals,
by 2015 all United Nations Member States have pledged to:
Reduce by half the proportion of people without sustainable access to safe drinking water.

At the Johannesburg Earth Summit it was further agreed, by 2015, to:
Reduce by half the proportion of people without access to basic sanitation.

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Abbreviations and acronyms

AFD	Agence Française de Développement
AfDB	African Development Bank
AsDB	Asian Development Bank
BOO	Build Own Operate contract
BOOT	Build Own Operate Transfer contract
CDC	Commonwealth Development Corporation
DAC	Development Assistance Committee (of the OECD)
DBFO	Design Build Finance Operate contract
EBRD	European Bank for Reconstruction & Development
EIB	European Investment Bank
EU	European Union
FAO	UN Food and Agriculture Organisation
GWP	Global Water Partnership
IADB	Inter-American Development Bank
IFC	International Finance Corporation
IWIRM	Integrated Water Resource Management
JBIC	Japanese Bank for International Cooperation
KfW	Kreditanstalt fur Wiederaufbau
MDG	Millennium Development Goal
MFI	Multinational Finance Institution
MIGA	Multilateral Investment Guarantee Agency
NGO	Non-governmental organization
O&M	Operating and maintenence
OBA	Output-based aid
ODA	Official development assistance
OECD	Organization for Economic Cooperation and Development
OPIC	Overseas Private Investment Corporation
PPP	Public-Private Partnership
PSP	Private Sector Participation
RDB	Regional Development Bank
SCR	Sustainable cost recovery
SSPWP	Small-scale private water provider
WWC	World Water Council

Foreword

At the start of the Third Millennium, more than one person in three in the world suffers hardship and indignity from the problem of water. This person is much more often a woman than a man. This injustice is largely unspoken and one of the most difficult to rectify, precisely because it is above all an injustice to women. Its root cause is our negligence and our resignation in the face of inequality. Yet while over the next fifty years more than half of mankind is threatened by "water stress", the dream of pure water for all continues to unite humanity. The group whose report I present here is witness to the remarkable work of the many men and women who are striving to realise this dream.

It was not our task to philosophise about this drama. Rather, coming after all the work done on the technical aspects of the problem, our remit was to explore its financial aspects, seemingly for the first time. Against the background of the Millennium celebrations and the Johannesburg Earth Summit, all the member states of the United Nations are committed, by 2015, to reducing by half the proportion of the world's population without access to water and sanitation. Our main task has been to indicate the financial means for achieving this.

This is the aim of the pages that follow. They are the fruit of the work of a group of men and women from diverse backgrounds. They have put all their resources, commitment, ability and experience into this work. The most difficult thing for them—as it is for me now—has been to draw the work to its end, since time is upon us. Our feeling is that we are far from having plumbed the depths of the problem, and we have had to confine ourselves to exploring what has to be done within the limits of our available resources. We have not been able to call upon any single specialised institution, since amongst international organisations water—this vital good—is surprisingly an orphan. Much of the information needed to define a strategy is still missing.

For all its limitations, the report brings a key message. The dream of pure water for all is within the reach of humanity. It can be attained by continuing for a further ten years the effort to which we are committed from now to 2015. This is the challenging task for the generation of people now running the world!

This effort must involve all parties acting together, since in the past they have too often tended to shift responsibilities to each other. The problem needs tackling at a global level, and can only be solved if all the various parties accept the need to change their approach, in some cases radically. This applies not just to governments in the North and South but also to towns, regions, nongovernmental organisations, communities, civil society, public services, companies, banks, multilateral organisations and others, each of which must redouble its efforts.

Financial flows, our main concern, need to at least double. They will have to come from financial markets, from water authorities themselves through tariffs, from multilateral financial institutions, from governments, and from public development aid, preferably in the form of grants. How could it be otherwise? This is basically a question of giving our brothers and sisters what they need to drink. The Universal Declaration of the Rights of Man, in its first article, sets each person the overriding duty of "acting towards others in a spirit of fraternity".

This doubling, or more, of the volume of finance has not daunted our group. We see it as an indispensable investment if humanity wants to achieve its other aims for health, universal primary education—above all of girls—and reducing absolute poverty by half between now and 2015. The world is capable of this effort. But it will make no sense and will not happen unless there is an equally unprecedented effort to reform the way the entire world tackles its water problem. This concerns those at all levels of responsibility, from village communities up to the United Nations. The first set of our proposals is addressed to these preconditions, which are essentially about good governance, responsibility, the participation of civil society, decentralisation and transparency. Our feeling is that the future of water is linked to a more participatory form of managing society, in which women take their rightful place. Not surprisingly, this inversion in the method of governance will require a corresponding inversion in the financial architecture.

That, briefly, is the core of the three-phase strategy for the next twenty-five years that we are proposing to the international community at the Kyoto Forum.

Michel Camdessus

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The members of the panel are grateful to all these individuals and organisations. But this report is theirs, and they take full responsibility for it.

The panel's mandate, composition and modus operandi

The Panel was formed as a joint initiative of the Global Water Partnership, the World Water Council, and the 3rd World Water Forum in Kyoto. In their commissioning letter, the sponsors invited the Chairman to form "a panel of financial experts to address the ways and means of attracting new financial resources to the water field." Its report should contain "new proposals on the financial aspects as well as on the enabling environment that has an impact on those flows".

Constituted in late 2001, the panel comprises 21 personalities with top-level experience in government, finance ministries, international development finance agencies, commercial banks and other funding bodies, water companies, non-governmental organisations active in the water sector, plus eminent independent professionals. A number of members appointed colleagues to act as alternates to ensure continuity of representation.

The panel held seven full meetings in 2002 and early 2003, in Paris (twice), Manila, Washington, The Hague, Johannesburg and London. These meetings typically included presentations and evidence from water or financial specialists on local and general topics, as well as internal panel discussions. In addition to the seven full meetings, the chairman and various other panel members and supporters attended other related meetings.

In recent years, there have been many conferences, reports and papers on global water problems, and the panel has not wished to duplicate these—or to go over familiar ground on which there is an international consensus. This report acknowledges some of the key milestones in the development of the prevailing consensus. It sketches in elements of the present situation and its perception of the causes of the current problem, as background to the presentation of its proposals. It takes for granted the conventional views of the sector's global financial needs and does not offer new and original estimates of its own.

The Panel has considered that its central responsibility was to answer the question: how to find the appropriate financial resources for the achievement of the two Millennium Development Goals (MDGs) for water access and sanitation. It is, nevertheless of the view that such targets cannot be separated from the consideration of the financial needs of all the different aspects of the water sector. These include all water uses, such as household water and sanitation, wastewater collection and treatment, irrigation and drainage, industrial water use, hydropower and navigation. The scope also includes *resource management* questions, such as watershed and river basin management, flood control, environmental protection, data gathering and climatic prediction. But the report does not pretend to be comprehensive in its proposals, which have been conditioned by the expertise and time available. The report deal in some depth with the water and sanitation sector, and dwells much less on other areas.

Geographically, the focus of the report is on developing and transitional countries of Latin America, the Caribbean, Africa, the Middle East, Asia, Oceania and Central & Eastern Europe and the former Commonwealth of Independent States. The term "global" in the report refers to these regions.

Why water?

The formation of the panel, and the proposals contained in the following pages, stem from a belief that water is one of the most important issues in the world today. This is so for a number of reasons.

First, access to water is a right and a basic need. The UN's Committee on Economic, Social and Cultural Rights recently stated[1]:

"The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realisation of other human rights"

Second, although water is the subject of only one of the goals contained in the Millennium Declaration, it is vital to achieving the others, such as poverty, education and gender equality. To take just three examples: providing segregated toilet facilities in schools is in many societies a pre-condition for the further education of girls; the availability of private toilets and water in-house or close by would make a big difference to the lives of millions of women; and irrigation is and will increasingly be a prerequisite to increasing food production to feed the growing world population.

Third, water has been underemphasied and neglected in the past, compared to other sectors. The costs of neglect, which are cumulative, are now better understood than in the past.

Fourth, access to clean water and proper sanitation, and attention to wastewater disposal and treatment, has proven benefits to public health. Poor water and sanitation is an important cause of diseases such as diarrhea (4 bn cases each year, with 2.2 mn deaths), intestinal worms (affecting 10% of the population of the developing world) blindness from trachoma (6 mn cases), cholera (where there have been 90 separate outbreaks since 1996) and schistosomiasis (200 mn people infected).[2] Carrying water long distances and waiting at water sources wastes the energy and time particularly of women and children, at the expense of family activities, education and productive work.

Fifth, effective water resources development and management are basic to sustainable growth and poverty reduction, in several ways. Broad-based water resources interventions such as major infrastructure provide national, regional, and local benefits from which all people, including the poor, can gain. Because it is usually the poor who live in degraded landscapes, interventions aimed at improving catchment quality and provide livelihoods for the poor are of major importance. Broad-based water service interventions (aimed at improving the performance of water supply and energy utilities, user associations and irrigation departments) benefit everyone, including the poor. Finally, water service interventions (such as water and sanitation and irrigation services for the unserved poor) play a major role in reaching some of the MDGs.

The inclusion of water as a target under the UN Millennium Development Goals, and the addition of sanitation, in the 2002 Earth Summit, are potentially fundamental steps for human life and dignity. It is the remit of the panel and the aim of this report to identify the policies and resources needed to make them real.

List of panel members and others

Members

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1 Landmarks in the evolution of a consensus

OVER THE PAST 10 YEARS OR SO THERE HAS BEEN GREAT PROGRESS in international understanding of global water problems, culminating in international commitments to tackle the worst deficits. So the panel does not start from scratch: there is substantial agreement on many important issues, with targets set for policymakers to attain. Some of the landmarks particularly relevant to financing are discussed here (Panel 1.1).[3]

Panel 1.1 Landmarks

1992	UN Conference on Environment and Development, Rio de Janeiro
1992	International Conference on Water and the Environment, Dublin
1996	Formation of the Global Water Partnership and World Water Council
1997	1st First World Water Forum, Marrakech
1997	Formation of World Commission for Water in the 21st Century
2000	2nd World Water Forum, The Hague
2001	International Conference on Freshwater, Bonn
2001	UN Millennium Declaration
2001	New Partnership for African Development (NEPAD)
2002	UN Conference on the Finance of Development, Monterrey
2002	UN World Summit on Sustainable Development, Johannesburg
2003	3rd World Water Forum, Kyoto

In Rio de Janeiro in 1992 the UN Conference on Environment and Development set the stage and much of the agenda for subsequent discussions of water as an environmental resource, agent and victim. The Conference adopted Agenda 21, a catalogue of issues and measures, with Chapter 18 devoted to water.

Also in 1992 the International Conference on Water and the Environment in Dublin issued four guiding principles, one of which was that "water has an economic value in all its competing uses and should be recognised as an economic good." Everyone should have access to water and sanitation at an affordable price. But the failure to place a price on water that reflects its economic value in its various alternative uses encourages wasteful and environmentally damaging use and results in its misallocation. Since Dublin there has been greater willingness to accept pricing and other market mechanisms in managing water, recognising that these are merely tools (the market is a good servant but a bad master). There has also been considerable debate about how pricing can be reconciled with affordability, especially for poor consumers.

Another Dublin principle, that water should be managed in a "holistic" manner, has been taken up by the Global Water Partnership, formed in 1996, with Integrated Water Resource Management (IWRM) as a policy framework for managing the sector.[4] One basic aspect of IWRM is a distinction between water values and water charges. Its values in different uses should be recognised and used to guide allocation between different sectors. Its charges should be applied where appropriate to provide the right incentives for users' behaviour. In IWRM, pricing has the dual aspect of a management tool and as a means for cost recovery.

The World Water Council, formed in 1996 as a think tank on international water policy issues, had as one of its first tasks organising the First World Water Forum in Marrakech in 1997. The Forum gave the WWC a mandate to conduct a three-year study of global water, including its financial aspects. The World Commission for Water in the 21st Century was formed to oversee the work, and its report, "A water secure world," was presented and debated at the Second World Water Forum in The Hague in 2000.

That report, and its background papers,[5] indicated that additional annual investment of about $100 billion was required in all branches of the water sector. Its other messages: More should be done at the country and basin level to identify financial resources and investment needs and to provide the incentives to encourage this finance. New investment should be mobilised from the international private sector, with more recognition aroused in the international ethical investment community. Locally, development banks and microcredit mechanisms needed to be used more fully.

The consensus gained impetus through two key conferences in 2000 and 2001. The Second World Water Forum in The

Hague in 2000 issued seven challenges, one to value water in all its uses. An implication is pricing water services to reflect their cost of provision, taking into account equity and the basic needs of the poor.

The Ministerial Declaration of the International Conference on Freshwater in Bonn, 2001 stressed the urgency of using existing resources more efficiently and attracting extra financing from all sources. The Bonn Recommendations for Action noted that public budgets were likely to remain the biggest source of investment—hence the importance of measures to strengthen public finances and, where public funds were scarce, to target them to the basic needs of the poor. National capital markets should be tapped, for instance through the issue of bonds. Water service providers should aim for financial sustainability through improved cost efficiency. But the affordability of their services should be assured by various means, including transparent public subsidies to the social target groups and cross-subsidies from other users.

It was recognised at Bonn that public funding for water needed to be augmented by private capital. This could take the form of public-private partnerships, which did not imply private ownership of water resources and assets. In any case, such partnerships were not to be imposed by donors as a condition of funding. They were to make water a more attractive investment opportunity, requiring good regulation and legal systems, transparent contracting procedures, reliable cost recovery and public acceptance. For this, local self-help efforts should be promoted to reduce external financial needs, including help for NGOs. Development aid should be increased to conform to UN targets, to leverage other sources and, given its scarcity, to target the needs of the poor.

International targets

The targets of halving service deficits in global water and sanitation started to appear in reports and conference declarations in the late 1990s, such as the World Water Vision presented at The Hague in 2000. They were given even more powerful expression in the Millennium Declaration of 2000 and the conclusions of the Earth Summit in 2002.

In its Millennium Declaration, the United Nations set a target for 2015 of reducing by half the proportion of people without sustainable access to adequate quantities of affordable and safe water.[6] The UN World Summit on Sustainable Development, in Johannesburg, explicitly extended the target to include sanitation.

These targets, for 2015, should be viewed as stepping stones on the path to full global service coverage and other aspects of global water security by 2025, the perspective of the GWP in its Framework for Action.[7] It should be recalled that the 2025 targets include irrigation, industrial effluent, wastewater treatment, water resource and environmental management, while the 2015 target is concerned only with household water and sanitation

In 2000 an estimated 1.1 billion people lacked access to safe water supply and 2.4 billion to improve sanitation. Allowing for the expected growth in population, reaching the UN targets would entail providing water to an additional 1.5 billion people (1.0 billion urban, 0.5 billion rural) and basic sanitation to an extra 2 billion (1.0 billion urban, 1.0 billion rural) by 2015. In the years before 2015, attaining the targets would mean *daily* global connection rates of several hundred thousand for both water and sanitation, depending on the source of the estimate.

Financing requirements

Discussions of finance tend to be dominated by *investment* needs. But it is equally important to provide for *recurring* expenditure on administrative overheads, operations, maintenance, routine repairs and periodic replacements. A common assumption is that these are covered by the normal revenues of water utilities. But this is often not the case, and shortfalls on repairs and maintenance lead to a need for higher investment in due course. Up to a point, adequate budgeting for recurrent spending items, backed by good cost recovery, can minimise future investment needs.

Estimates of the current annual resources financing new infrastructure in the water sectors of developing and transitional countries are very broad, as are its future requirements. The GWP in its Framework for Action, produced the figures in table 1.1, generally accepted as the right orders of magnitude:

Nearly all the extra financing for household services should be for sanitation. However, the current annual flow of investment in drinking water supply has just been sufficient in the past decade to maintain as 1.1 billion the number of people without adequate access to drinking water.[8] The estimate of the above table regarding drinking water is therefore significantly underestimated.[9] By far the largest increase in funds will be required for the treatment of wastewater from both households and industry, now grossly underprovided. The item "environmental protection" includes flood control and water resources management in its various forms. Estimates for both drinking water and sanitation depend on the level of service and the technical option chosen, on which the GWP takes a pragmatic and eclectic stance.

Table 1.1 Indicative annual investment in water services for developing countries

	Annual costs	
	Today	2002–2025 (billions of US$)
Drinking water	13	13+
Sanitation and hygiene	1	17
Municipal wastewater treatment	14	70
Industrial effluent	7	30
Agriculture	32.5	40
Environmental protection	7.5	10
Total	75	180

Source: GWP, "Towards Water Security: a Framework for Action", and John Briscoe, "The financing of hydropower, irrigation, and water supply infrastructure in developing countries," in *Water Resources Development,* (Vol. 15, no. 4, 1999. Figures include 15% allowance for O&M.

Note: Operating and maintenance. Investment in hydropower (about $15 billion) is not separately identified. Because larger schemes are usually multipurpose, some of this cost would be included in the Agriculture and Environmental Protection categories, and the remainder would be attributed to the power sector.

The costs of meeting the 2015 targets also depend crucially on assumptions about the type and level of service. This is in turn affected by the strategy to reduce the service deficit—the countries, the urban-rural balance of the target group, and the half of the unserved population addressed first. Using the most basic standards of service and technology, the 2015 goals could be attained at an extra annual investment cost of about $10 billion[10] But providing full water and sewerage connections and primary wastewater treatment to the urban populations would raise the annual cost of the 2015 goal to $17 billion for water and $32 billion for sanitation and sewerage.[11]

The broad ranges of the above estimates are of course due to the scarcity of reliable data in many countries in a sector on which public attention has not so far concentrated. The Panel had to acknowledge that we still lack the solid information basis on which to build a global strategy. The need to avail ourselves with more precise quantification, before suggesting detailed steps, lies behind the three-stage strategy this report recommends.

Financial initiatives

Africa is at the forefront of international water concerns, and in 2001 the New Partnership for Africa's Development (NEPAD) was launched. It was to be thereafter endorsed by the African Union, spotlighting African ownership and leadership in tackling the continent's problems. NEPAD supports public-private partnerships as a means of attracting extra finance for such sectors as water. The African Development Bank has been given a particular but shared responsibility for infrastructure, and is closely associated with the development of proposals for an African Water Facility as an investment support vehicle and aid to capacity building.

The UN Conference on Financing for Development, at Monterrey in 2002, signified a potentially major change of trend in international aid for development, including water. Governments and agencies committed themselves to increasing their aid by 25%, which would raise an extra $12 or so billion a year. If realised, this would set aid for water on a new trajectory: in 1999–2001 annual average commitments of aid to water supply and sanitation from all sources had fallen to $3.1 billion, down from $3.5 billion in 1996–98.[12]

Apart from the formal inclusion of sanitation in the 2015 target, the Johannesburg Summit was notable in other respects. It was the occasion for announcements of pledges and programmes by the United States, the EU and other bilateral and multilateral donors, and extra resources for various UN programmes. There was recognition of the need for water storage and hydropower development, including dams of all sizes, which signified and important change of mood.[13] The business sector, in the Business Action for Sustainable Development, played a prominent and constructive role, stressing the need for an enabling environment, using aid for capacity building, involving all water stakeholders and consulting users, and moving to full cost recovery.

2 Brief status report on infrastructure and financing

THE "WATER SECTOR" HAS MANY FACETS, BUT THE MOST BASIC distinction is between water as a *resource* to be developed and managed for the benefit of all its functions and users, and water as a *service*, to be provided to its many users after abstraction from the resource. Both aspects need financing, and both are currently deficient.

Start with water as a resource. All countries need adequate water infrastructure, but those with dry or highly variable climates need more than others. Around the world, countries vary greatly in their stock of hydraulic infrastructure. The western United States, Australia and Ethiopia have similar climates, but the United States and Australia have around 5,000 m^3 of water storage capacity per person, while Ethiopia has only 50 m^3—Africa and the Middle East only 1000 m^3.[14] The need for more storage is likely to become even more acute with global climate change.

Another measure of grossly unequal endowments is the development of the hydropower potential in different regions. In Europe and North America more than 70% of hydro-potential has been developed, in South America 40%, in Asia about 30% and in China 20%. Many dams are multipurpose, important for flood protection as in China.

Africa is particularly disadvantaged. Its available water resources are grossly underused. Only 3% of its renewable water is withdrawn annually for domestic, agricultural and industrial use, in a continent where 40% of the population has inadequate access to water and sanitation. Only 6% of Africa's cultivated land is irrigated, and less than 5% of its hydropower potential is used.[15]

Not all the cost of water resource management consists of physical infrastructure. Other aspects include data collection, weather forecasting, afforestation, land use regulation, conjunctive use of surface and ground water, conservation measures, ecosystem management and pollution control. Most have to be funded from local government recurrent budgets, but there has been widespread underfunding of these essential services, with flood control as a problem in many regions, requiring a mixture of infrastructure and management measures.

The second facet of the water sector is the provision of services, and here again there are large global deficits. Africa has 38% of its population unserved by safe water and 40% by sanitation Asia has 19% without safe water, 52% without sanitation. Latin America and Caribbean 15% without water and 22% without sanitation. Although a huge number of additional people obtained access to services in the 1990s (800 million to water and 750 million to sanitation) population growth meant that the coverage for urban water actually decreased, while the absolute number of people without access to water and sanitation remained the same. Looking ahead to the next 25 years, the urban populations in Africa and Asia will almost double, and that in Latin America and the Caribbean will increase by 50%.

Sewerage and wastewater treatment are even less developed. Although comprehensive estimates are not available, a large part of the sewage in most developing cities is not collected, but instead disposed of in unsanitary ways that endanger public health. Moreover, much sewage that is collected is released untreated, or treated to an unsatisfactory standard. At any time, many wastewater treatment plants are not operating at all, or not working properly, because of financial and technical problems.

Industrial effluent—untreated, or not treated to proper standards—is a serious pollutant of rivers and coastal waters, causing environmental damage harmful to both humans and wildlife. Enterprises, both private and public, in developing and transitional countries, have very large backlogs of investment in effluent treatment.

Water services to agriculture, deficient in serious respects, will be even more severely challenged in coming decades. In developing countries irrigated agriculture accounts for 40% of all crop production and 60% of cereals. Over the next 30 years it is estimated that arable irrigated land would need to increase by 22%, and water withdrawals by 14%, to meet

the demands of a larger world population.[16] These data imply major efforts to improve the productivity of land and efficient use of water. Major reforms will be required to reduce the incidence of famines and ongoing malnutrition (recall that the Millennium Development Goals include the target of halving by 2015 the proportion of people who suffer from hunger). Agriculture will compete with other sectors for a limited water resource. Yet irrigation service providers are often inefficient and underfunded, with badly maintained systems, and large areas of land degraded by water-logging and salinisation.[17]

Trends in funding for investment in water

Water infrastructure is ultimately paid for by one of three parties: water users, through their own outlays or through water bills paid to official water service providers; taxpayers, though various local or national fiscal flows; or aid donors, including private voluntary contributions (box 2.1)

Financing water infrastructure means spending cash to finance long-term physical assets. This is financed by the present cash flow or reserves of the water undertaking, or by taking on loans or equity, which have to be reimbursed over time by water users or fiscal transfers. Such financing sources are only feasible if long term reimbursement by users, taxpayers or donors is possible.

The largest funding sources are local, such as governments, local banks and users, all difficult to quantify in global terms. In contrast, the contributions of international aid, foreign banks and private companies are much more, easily seen, though less important. The balance between sources varies according to which part of the water sector is being discussed:

Water and sanitation.[18] In the mid-1990s the breakdown of financial sources was estimated to be: domestic public sector 65–70%, domestic private sector 5%, international donors 10–15% and international private companies 10–15%.

Irrigation and drainage. There are no reliable estimates of global investment in irrigation. Large public sector schemes are funded mainly by local public agencies and international aid, with smaller schemes and on-farm investments mainly privately financed by farmers, informal credit, and banks.[19]

Hydropower. Private finance has covered less than 10% of annual investment, mainly for small run-of-the-river schemes and rehabilitation projects. For various reasons, governments, aid donors and international development agencies finance the great bulk of this sector, though in some cases this supports private lending through guarantees. In recent years, donors and MFIs have reduced their support to this sector.[20]

Public funding obviously remains important, but it is a hostage to the fiscal position of developing countries. More governments have delegated financial responsibilities to local authorities and are interested in public-private offers. Without firmer evidence, it is reasonable to conclude that public funding of the water sector has at best been stationary.

Box 2.1 Where the funds for water come from

- **Water users,** such as households, farmers and businesses. Householders, particularly in rural areas and in poorer urban districts, invest their cash, labor and materials in wells, pipes, basic sanitation and other facilities. Farmers invest large sums in tubewells, pumps and surface irrigation systems, either on their own or as members of associations and user groups. In some regions, farmers with surplus water from their own sources invest in distribution systems to dispose of their surplus to others. Industrial and commercial firms often develop their own water supplies and effluent treatment facilities. Some large firms even supply the general population. Users also cross-subsidise each other through paying different tariffs.
- **Informal suppliers.** In cities where growth has outstripped the public network, local entrepreneurs, often acting outside the law, fill the vacuum by selling water in bulk from tankers—or in containers and bottles.
- **Public water authorities and utilities,** which fund recurrent spending and some new investment from revenues provided by user charges (gross operating cash flow), loans and sometimes public subsidies.
- **Private companies,** either local or foreign, providing funds from sources similar to public utilities, plus equity injection.
- **Non-governmental organisations and local communities,** raising funds from voluntary private contributions or grants from international agencies.
- **Local banks and other financial institutions,** offering short-term or medium-term loans at market rates.
- **International banks and export credit agencies,** providing larger volumes of finance than local sources, against corporate guarantees or project cash flow
- **International aid from multilateral and bilateral sources,** available as loans on concessional terms or grants
- **Multilateral Financial Institutions:** Loans on near-market terms
- **Environmental and water funds**
- **National central and local governments,** providing subsidies, guarantees of loans, and proceeds of bond issues.

The water sector's funding of investment from its own cash flow has shown little change. In a major review of its projects in the water and sanitation, the World Bank concludes that "financial sustainability of the service providers and resource mobilisation for sector development...remain elusive goals."[21] In fact, the measure of financial sustainability used by the Bank's OED was slightly worse in 1999 than in 1990[22].

International aid for water and sanitation has fallen in the last few years—(at $3 billion a year in 1999–2001, compared with $3.5 billion in 1996–98). Loans from the main MFIs to the water sector have shown a varied trend. World Bank annual lending approvals for water and sanitation averaged $1.1 billion in 1999–2001, slightly down from ($1.25 billion) in 1990–98 but with great year-to-year variation. IADB lending for water and sanitation was clearly lower in 1996–2001 ($400 million a year) than in 1991–95 ($640 million a year). The AsDB's lending has been rising, though with year to year fluctuations ($275 million a year in 1996–2000, compared with $200 million a year in 1990–95).

Aid for irrigation and drainage, and for hydropower, has declined substantially in the last decade. The World Bank and IADB have practically ceased lending to large new water storage projects in response to the current hostility to such schemes, though the decline is less marked, from a much lower base, for the AfDB and AsDB.

International private investment and commercial bank lending, never large, have suffered from the general decline in private flows since their peak in 1996–97. Water and sewerage projects received only 5.4% of all private commitments to infrastructure in the 1990s. Year to year the figures fluctuate widely—$2 billion in 1998, $7 billion in 1999, $4.5 billion in 2000.[23] However available figures do not accurately reflect the contribution of the private sector to funding water infrastructure since they include commitments made to governments (e.g. the cost of buying existing assets), and do not assess year by year the creation of new physical assets.

Commercial banks are now much more cautious in lending to emerging markets than before 1996. And the pool of private companies with the resources and willingness to invest in overseas water projects has shrunk, leaving the ones that remain more risk-averse. Nevertheless, these companies remain an invaluable source of know-how and of potential for innovation. In the framework of well designed Private Sector Participation (PSP) schemes they could be essential actors in responding to the needs of a rapidly urbanising world.

Private or public water operators?

The ownership of the water industry generates passionate debate. The panel, by contrast, takes a pragmatic view of the issue based on its observations of past experience, the current situation, and future requirements. For the 40 years after 1950, aid and MFI lending for water went entirely to public authorities with large sums disbursed. The central areas and affluent suburbs of big cities were served, but by the late 1980s in rural areas and poor suburbs the situation remained unsatisfactory. Too many utilities were poorly managed—and poorly supervised by the regulatory authorities.

By 1980 private operations in water were limited essentially to France, some small areas of Great Britain, the utility-owned distribution schemes in the United States, some cities in Spain, and parts of francophone Africa. The divestiture of the UK water infrastructure to the private sector in 1989 created great international interest. People who witnessed for decades the difficulties public utilities were facing in their attempts to reform themselves to be more efficient, less prone to corruption, more open to their clients and to the public became interested in what the private sector could offer in a range of emerging economies. The contractual agreements made in other countries were of various kinds, but they rarely followed the British model of full divestiture. The various other models of public-private partnership leave the ownership of the infrastructure and the overall control of the policy environment and the resource with governments, while private operators are contracted to perform certain tasks in operations and expansion of infrastructure.

The experience of the past 15 years can be summarised as follows. The introduction of private operators in a country that has no experience in this matter is a long and difficult process. Compared with other types of infrastructure, the water sector has been the least attractive to private investors, and the sums involved have been the smallest. Only 3% of the population of poor or emerging countries is now served by operators that are fully or partially private. The 1.1 billion people without access to potable water and 2.4 without basic sanitation are in regions still served by public authorities and public utilities.

Most private operations have achieved real progress in efficiency and, when required by the authorities and as part of their contracts, affordably served poor suburbs.[24] The trend of private operation has come to a virtual standstill since the economic crisis in Argentina and elsewhere, and the brutal devaluations.

A ray of hope

It is impossible to escape the conclusion that the global water sector in its many forms is in disastrous condition. Water is not being sufficiently developed and conserved. Physical infrastructure is lagging behind need. Sector management is deficient. And services are deteriorating, and deficits growing. Allied to this is a shortage of financial resources going into the sector. Indeed, the financial situation has been getting worse in the last few years, and the sector shows no sign of generating the funds to meet future service targets.

A rapid overview of this kind inevitably oversimplifies and fails to do justice to the many governments, municipalities, villages, companies, and user associations, which are rising to the challenges they confront.[25] Even the global rate of water connections in the 1990s is impressive in absolute terms and in relation to the scale of previous efforts. But it has been outpaced by the growth in population. Generally speaking, the technology is well-known and straightforward, and the widespread demand for the service is backed by a willingness to pay. The need for policy and institutional reform to make sustainable changes has also emerged as a global consensus and the reforms and institutions required are becoming better understood and already exist in different places. The challenge is to generalise these successes—and to bring the many up to the standards of the few.

3 Roots of the problem

All the evidence presented to the panel gives a consistent picture. Serious defects in the "governance" of the global water sector hamper its ability to generate and attract finance. But even if these deficits were overcome, inherent features in this sector would pose risks to potential operators, lenders and investors. This chapter deals first with governance issues, then turns to the specific risks of the water sector in its main branches. It concludes with the interaction of country risk and project size on financing options.

Governance

The following issues seem to be important:

- The apparent low priority that central governments give to water sector issues.
- Confusion of social, environmental and commercial aims.
- Political interference.
- Poor management structures and imprecise objectives for water undertakings.
- An inadequate general legal framework.
- Lack of transparency in the award of contracts.
- Non-existent, or weak and inexperienced regulators.
- Resistance to cost-recovering tariffs.

All governments, agreeing on the importance of water, subscribe to internationally inspired commitments and undertakings. But their spending performance is at odds with their rhetoric: in most countries the water sector is given a disproportionately small share in the budget. Part of the explanation is that water tends to be a local responsibility, and local and national priorities differ. There is also a tradition, especially in poorer countries, of reliance on foreign aid for new water investments. It is also true that some aspects of this sector are unglamorous, practically invisible in electoral terms.[26] With the mass of people not serviced politically weak or disempowered, it is tempting to postpone spending on maintenance and periodic replacements, likewise on investments with a long gestation period. Nor is water a priority in the use of resources saved from debt relief. Few Poverty Reduction Strategy Papers give priority to water, and some omit it completely.

Because water is a basic resource serving many functions, it is often expected to pursue conflicting aims. The social and public health benefits of providing adequate clean water and sanitation to all may be incompatible with full cost recovery and financial self-sufficiency. Wastewater treatment to fulfill environmental responsibilities to downstream users and neighbouring states may not be financially feasible. Providing cheap or free irrigation water as a contribution to a national cheap-food policy is likely to deprive the irrigation agency of funds to maintain its system. Many irrigation agencies and water departments are grossly over-manned, in a misguided attempt to create employment. As a general rule, it is preferable to make a distinction between the various policy aims to which water contributes, and, so far as possible, to arrange funding for each in an explicit manner.

In different countries, there are many different ways of organising the water sector, reflecting local political, cultural and administrative traditions. In many cases water is still operated from a local government department, or as a nationalised industry, or as part of a ministry. In some cases, it is an autonomous agency, and there are now many examples of privatisation in its various forms. Although each case has pros and cons, and no model for reform is universally valid, it is important to be able to hold the sector organisations to account for their own performance. This normally implies having separate accounts, some managerial, commercial and financial autonomy, and clear and consistent objectives set by governments, municipalities or users. These principles are valid whether water is operated in the private or public sec-

tor. In reality, the failure to follow these principles means that there is widespread inefficiency and waste in this sector, coupled with arbitrary political interference.

Attracting finance into the water sector, particularly of a novel type, presupposes a supportive legal framework, containing such features as: corporate laws permitting the structure of corporate vehicles; the concept of freedom of contract for a project and the enforceability of commercial contracts; adequate investment protection laws; clear authority for the public sector to enter in public-private partnerships; lenders able to obtain effective security; supportive banking laws; sector-specific legislation; confidence in the impartiality and competence of the judiciary, if local enforcement is necessary. The absence of such legal foundations makes attracting finance more difficult.

The water sector is prone to corruption, like any other, in societies where this is endemic. The willingness of companies, or pressure on them, to make bribes or other favours in order to win business has insidious effects, raising the cost of the deal, increasing its debt burden, distorting the shape of the project and demoralising staff in the agency being bribed. Corruption can be a factor whether the sector is privately or publicly operated. Such behaviour is now becoming riskier as it is exposed by international pressure. But until all parties subscribe to the same rules and standards of ethical behaviour, the more principled companies will be discouraged from seeking business in these cases.

Regulation is a necessary part of placing water agencies at arms' length from governments and making their behaviour accountable to the public. Although regulation is usually seen as a precondition of private sector involvement, it has an essential role in the public sector too, wherever an agency is accountable for its performance. Unfortunately, there are very few examples of good, experienced regulators in the water sector in developing countries. Most are recent, weak and subject to government interference, struggling to cope with the impact of macroeconomic events on major concessions. Where regulation is absent or weak, neither companies, governments nor the general public have confidence in the processes concerned, and investment suffers.

Most water undertakings do not cover their full costs—operations, maintenance and capital items—and hence rely on public subsidies.[27] This precarious existence makes them the victims of periodic budgetary crises. There is little political will to raise tariffs, even to cover O & M expenses, despite the possibility of designing tariff structures that cushion the water bills of the poorest and the use of the social security budget to subsidise deserving cases. Many utilities are trapped in a vicious spiral of weak finances, underspending on essential maintenance, declining service quality and resistance to pay more for a poor service. This process is particularly evident in public irrigation agencies, where cost recovery nearly everywhere very low, partly related to the depressing effect on prices from farm subsidies in the OECD countries.

Specific risks of the water sector

The panel received evidence from a number of sources, which were unanimous about the importance of the following specific risks, which apply to the commercial funding of water, from both private and public sources. Some of them are not unique to water, but they all apply with particular force to this sector:

The typical *project profile* comprises a high investment in the initial years with a large negative cash flow, eventually turning into a modest positive cash flow due to revenue increases, which continues into the long term.[28]

- Project profile: capital intensity with high initial investment and long payback period
- Low sector rate of return
- Foreign exchange risk: mismatch between local currency earnings and foreign currency funding
- Sub-sovereign risk: responsibility with local entities lacking financial powers, resources & credit standing
- Risk of political pressure on contracts and tariffs and absent, weak and/or inconsistent regulation
- Contractual risk: projects of long duration entered into with poor initial information

Water, wastewater and hydro projects are among the most capital-intensive of infrastructure investments. In the United States, for instance, the ratio of capital investment to revenues is twice as high in water as in natural gas, and 70% higher than in electricity and telecommunications[29]. The assets created are typically unusable for any other purpose and cannot be removed, so the investor depends totally on future revenue to obtain the desired return. When investment is completed, the investor is totally at the mercy of the host authorities (hence the importance of a strong and independent regulator).

Hydropower projects also have features that discourage private finance—high front-end costs, high construction risk,

environmental sensitivity, high capital intensity, heavy local costs and long payback periods. In practice, only a small proportion of hydro projects are privately financed, and they tend to be small, run-of-the-river projects producing for base load.[30] Major public irrigation projects share some of the same features, with the additional problem of poor cost recovery, but there has been a high level of private investment into smaller schemes, especially those based on groundwater. Much recent investment has also been in rehabilitation projects, avoiding sunk costs.

Partly due to the delayed returns, coupled with resistance to tariff increases, financial *rates of return* in the water sector are among the lowest of any sectors.[31] Contrary to the situation in developed countries, where water is considered a very safe investment, the risk-adjusted return on water in developing countries may be even lower than its nominal *ex ante* level, for reasons set out below. It should be noted, however, that the last generation of irrigation projects has turned in a good average *ex post* economic rate of return (15%, or 25% if weighted by area)[32] though the *financial* rates of return are probably less.

Practically all revenues from water projects are in local currencies. This implies that borrowings or investments that have to be serviced, repaid or reimbursed in foreign currencies carry a *foreign exchange risk*. In practice over the last decade, most large private concessions and joint ventures have been affected by devaluations in their host countries, some disastrously. It is effectively impossible to insure against foreign exchange risk. A common way of dealing with devaluation contractually is to allow tariffs to increase according to a formula that includes foreign exchange movements, but in the case of massive changes such formulae are usually sidelined because the implied tariff increases would be unrealistic.

The *sub-sovereign risk* in water was repeatedly stressed to the panel. During the last two decades central governments have devolved the responsibility for providing water services to sub-sovereign bodies, such as municipalities or regional agencies. But these entities have not been given equivalent powers to raise finance. Cities that are larger and financially stronger may have no difficulty raising bonds and loans on their own account, but most depend on a central government guarantee or other support, which is usually given sparingly since it represents a contingency liability on the central budget. Central government often bars sub-sovereigns from raising money themselves. Municipalities also tend to lack expertise in raising outside finance, and their financial management is weak. Some international financial agencies are barred from lending at this level.

Because water is so important in people's lives it is often exploited for political reasons. *Political risk* arises when there is a likelihood of politicians intervening to override the terms of agreed contracts, or to exploit ambiguities in them. This is particularly likely at the completion of an investment programme, when tariff increases are due. A good system of regulation would contain such abuses, but where this is not present, *regulatory risk* arises—investors and operators cannot rely on a stable and impartial regime to govern their activities.

Contractual risk is present to a high degree, for two main reasons. First, contracts in the water sector tend to have a long life—typically 25–30 years. And over such a period the operating environment is likely to change, because of changes in national policy or water standards. Second, contracts are bid for and accepted without the bidder having full information about the extent and condition of the network (much of which is underground) and its installations. Contracts may not be flexible enough to accommodate subsequent adjustments. Even where contracts contain dispute resolution clauses, they may not deliver timely results, nor are they always cost-effective.

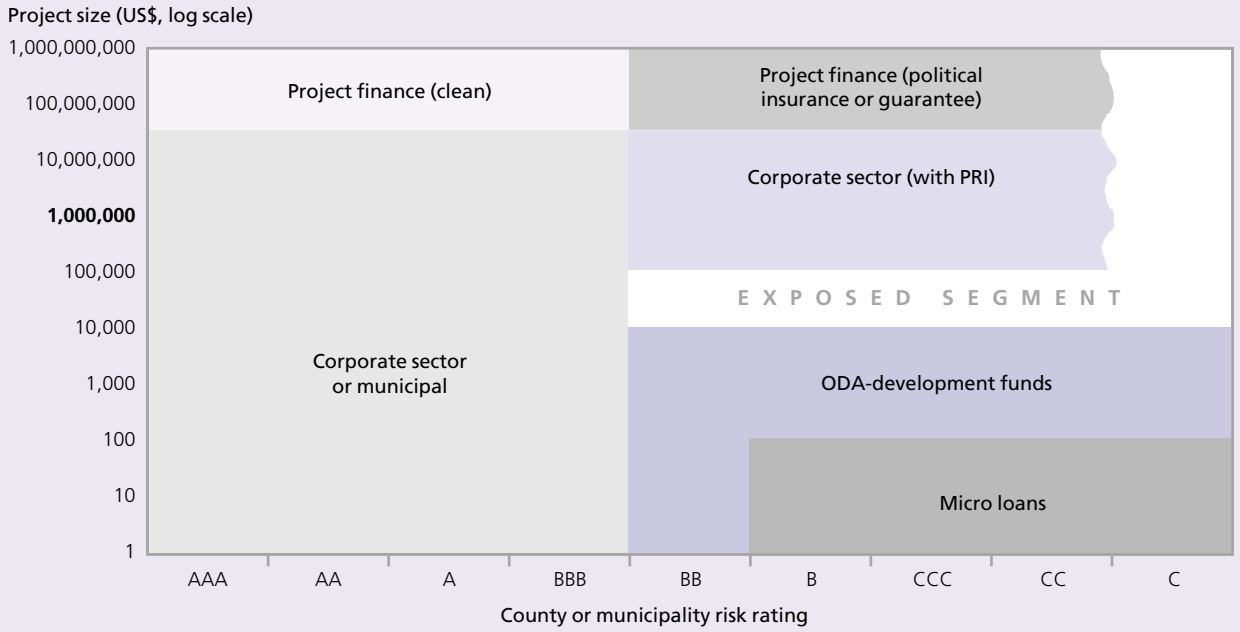
Country risk and project size

Country risk is a generic issue, not specific to water. The ability of governments, municipalities or water utilities to raise funds either internally or externally is crucially affected by the ratings given by one or other of the ratings agencies. Agencies use different criteria for Local Currency and Foreign Currency Ratings (the latter refers to the issuer's overall capacity to meet its foreign currency obligations).[33] Anything less than BBB (on the Standard & Poors scale) is not considered "investment grade." Few emerging markets have investment grade ratings, and this obviously limits lenders' willingness (or, for some institutions, their legal ability) to take up bonds or syndications.

Water projects tend to fall in an awkward category from the viewpoint of financing, too small to bear the overhead costs of project finance, but too large to be funded from aid. The relationship between country risk and project size, and the implications for financing options, is illustrated in Figure 3.1.

Project finance is generally available subject to a *'de minimis'* size, which depends on the bank(s) and the project. A typical minimum project size is $50–100 million. Below that level, returns to scale generally tend to make project financing uneconomic, and projects will have to be addressed by the corporate sector. For project finance to be a viable option,

Figure 3.1 **Water projects segmentation, financing options**



project revenues and returns to equity must be acceptable, though this does not preclude the use of aid to reduce the debt or equity burden of the project.

As the creditworthiness of the host country/municipality worsens, eventually a credit standing is reached where the project will not be financeable without some political insurance/guarantee. Then, as country creditworthiness worsens further, projects will not be financeable under any circumstances because of the country rating and/or the lack of political cover available. In Figure 4.1, there are projects of greater than $50 million that will not be done because of the lack of political cover. Similarly for sub-investment grade locations (rated BB+ and below), there is a project size ($ 10,000 to $ 100,000) too small for the corporate sector and too large for aid or micro loans.

The area where projects will not get financed is described as the Exposed Segment (coloured white). (Note that the diagram has a logarithmic scale.) The Exposed Segment probably contains the majority of prospective projects—the range $10 million to $50 million is a common size for water projects.

4 Proposals

General orientations

The panel has come to the following general conclusions, which lie behind its proposals:

- Based on the various authoritative estimates of investment requirements to meet targets both for 2015 and 2025, there is clearly going to be a large gap between current financial flows and the investment estimates. The annual funds going into the sector as a whole would need to roughly double. This is the benchmark to be kept permanently in mind.

- No single source will be large enough to fill this gap alone. There are various sources of funding for water, and the sector will need them all. In practice, governments, ODA donors and MFIs are currently the major funders of investment. Cash flow from water revenues provides only part most of recurrent costs (operation, maintenance, repairs) and only rarely contributes to funding investment.

- Global financial flows into water, after a slight increase in the 1990s, have recently fallen to a very low point.

- Many central governments have not, in practice, been giving high priority to the water sector, and need to decide on a clear policy towards this sector. But as the problem of water access and sanitation essentially lies at grass-roots level, decentralisation of policies will be crucial.

- The water sector badly needs reforming as a condition of generating and absorbing increased funding from all sources. This should be accompanied by a major effort at building managerial and technical capacity, with help from national and international peers. This should be a priority for the use of donor and MFI funding. Without reforms and capacity building, it will be a case of New Wine into Old Bottles.

- Sustainable financing for water systems will require greatly improved cost recovery from their users and increased management efficiency. In many cases revenues scarcely cover recurrent costs at present, and make no contribution to investment. The situation is even worse in public irrigation systems. Tariffs will need to rise in many cases, but the flexible and imaginative use of targeted subsidies to the truly poor will be called for to make cost recovery acceptable, affordable, and so, sustainable.

- On a positive note, the climate for official aid (ODA) is now better than for some years, and with the new commitments by a number of major donors, we can look forward to a reversal of the recent downward trend. Donors should be pressed to uphold their pledges and MFIs are likewise urged to increase their lending. Even so, ODA and MFI lending are not going to fill more than a minor part of the funding gap, though it is most important for the poorest countries. Aid flows need to be more carefully allocated to countries and target groups, and combined with other types of finance to induce a larger total flow from all sources. We are aware that this implies a significant departure from prevailing methods in a number of donor cities.

- International commercial lending and equity investment for emerging markets in general, and to water in particular, have been falling in recent years, and the prospects remain poor. New ways of mitigating the risks of lending and investment in the sector are urgently needed, and existing facilities need to be used more fully.

- Private international investment in infrastructure has been very selective, oriented far more towards energy, transport and telecommunications than to water. Many projects in the water sector, though initially successful, have been beset by difficulties, especially currency crises in such key countries as Indonesia, Philippines and Argentina. In response to these and other problems, the pool of potential international operators has shrunk and

is now very small. The panel is convinced of the vital importance of private sector disciplines, know-how and management skills in the reform and further development of the water sector. But it takes a pragmatic view of the costs and benefits of private participation in each case. It is aware that there are many different kinds of private involvement. Whatever the form chosen, risks need to be better allocated between the various parties and mitigated, using both existing and new methods.

- With revenues in the water sector almost entirely in local currencies, it is sensible to finance the sector as far as possible using locally denominated funds, to minimise exposure to currency changes. This calls for active measures to develop local capital markets and funding sources. It also implies that central governments should exercise special restraint in order to avoid crowding out other borrowers in the long-term credit markets.

- Much investment in water is made, and much more is needed, at the grass-roots level, where the involvement of individual users, small producers, community organisations and NGOs is essential. These parties need to have better access to finance. In many countries, local businesses are already involved as contractors and service providers. Already tapping into local funding sources, they would benefit from the further development of local capital markets.

- There is clear evidence that so far water has suffered from a lack of financing, particularly at grass-roots and local level, and a lack of monitoring at national and global level. This calls, to a degree, for a "reversed financial architecture," though we should guard against the illusion that it is possible to solve the problem by the creation of a global world water fund. At this level, nevertheless, a "global control tower" is needed, to provide information to a group of independent observers to prompt adequate and timely reactions.

The remainder of this chapter applies this philosophy to make proposals for increasing funding for the water sector. There are broadly two kinds of measures: governance and sector reform, which are mainly within the powers of host governments and which create the right environment for attracting more finance; actions the providers of funds and their counterparts in the host countries can take. This section includes specific financing proposals, which necessarily differ according to the sector to which they apply (e.g. urban or rural).

Water governance and sector reform

This section starts by addressing what central governments need to do to raise water higher on their policy agenda. It dwells at greater length on the crucial role of "sub-sovereign" entities as players in this sector and has numerous suggestions for making them more powerful and effective. It urges the importance of creating larger and more efficient local capital markets and financial intermediaries. It also discusses of key cross-cutting issues—corruption, managerial capacity sustainable cost recovery and legal and contractual aspects.

Central governments

Central governments in developing countries need to take a grip on the water sector by producing national strategies for implementing the MDG targets and other water sector commitments—and by inscribing water clearly in their PRSPs to capture the benefits of debt reduction for this sector. The PRSP is used increasingly by countries and their donors as a centrepiece of poverty-reduction policies and as a vehicle for targeting the local proceeds from coordinated international debt reduction. So far, the water sector has not had the priority it deserves in these Papers, and in some cases does not even feature.

Governments that rise to the challenge and genuinely give water the priority it deserves should get financial bonuses from the international community. Aid and multilateral lending should reward the countries that are "first off the block."

- Each country should produce a national water policy and plan, including specific programmes to meet the Millennium targets and beyond. This would be detailed in an action programme embedded in the national document that countries committed themselves to produce at the Johannesburg Earth Summit, and would be part of an agreement for additional ODA for water.

- Countries should state indicators by which their efforts should be judged.

- Each country should provide predictable revenue frameworks to their water service providers, either public or private.

- Each country should monitor and report annually their achievements towards the WMDGs.

- For the Highly Indebted Poor Countries, water should be explicitly included in national Poverty Reduction Strategy

Papers, to give higher priority in national budgets and capture some of the benefits of debt relief for this sector.

- Donors should keep funds available for rewarding countries that make early progress on implementation of water programmes in meeting the MDGs.
- Governments should create an enabling environment for the participation of the private sector in the delivery of infrastructure services.
- Governments should adopt integrated water resources management policies.
- Governments should encourage municipalities in large and middle size cities to start working on projects for water supply and sanitation with the aim of responding rationally to the pressure of urbanisation
- Governments should engage in active regional and international policies to address the problems of trans-boundary rivers and basins.

Sub-sovereign entities

The sub-sovereign level of government has the greatest potential to raise the quantity and quality of water services. In most countries, local governments—or their public local water authorities—are responsible for providing collective water services. Where provision is inadequate, sub-sovereign bodies can best identify local solutions, organise their implementation and manage distribution. There is a better chance of good choices being made over the technology and level of service being provided if the decisions are taken at a decentralised level. Mistakes made over these crucial choices can kill any hope of financial sustainability for the water service providers concerned.

Sub-sovereign bodies can allow local participation, have a thorough understanding of local problems and issues and enable quick decisionmaking at the local level. An inclusive government can energise local participation in building solutions. The sub-sovereign can also handle a wide range of project sizes, including the very small. But one of the main blocks to progress in water is the sub-sovereigns' lack of access to money and lack of good management skills.

First, sub-sovereigns must demonstrate the required breadth of expertise in managerial and financial matters, and in budgetary and treasury management.

- Governments should be encouraged to procure training and help for their sub-sovereigns in these areas.
- Central governments should set national minimum standards for the provision of water sector services by their sub-sovereigns.
- Governments, with sub-sovereigns as a group, should define what technical and financial assistance sub-sovereigns require to meet these standards.
- In order to optimize local investment capacities local governments and water authorities should maximize their operating efficiency and report about their performance in meeting these standards.
- The development of close contacts, including partnerships and associations, should be promoted between sub-sovereigns, both nationally and regionally, to allow exchanges of experience and best practice. This would extend to the preparation of toolkits and possibly preparation of standardised documentation.
- Contracts for Private Sector Participation (PSP) should be standardised and promoted, whereby sub-sovereigns can employ private companies under incentive-driven contracts to raise efficiency and performance.

Apart from good management, the creditworthiness of sub-sovereign entities depends on tax revenues, flows from central government, cash generation from the tariffs for existing services, the income generated by new projects, capital and operating expenditures and the levels of debt. Active municipal financiers give high credence to the concept of essentiality. If taxpayers believe a project is necessary, they will be much more willing to pay taxes and bear other financial burdens, than if the project is considered inessential or even frivolous.

Current problems include the inadequacies of the financial statements prepared by sub-sovereigns, the secrecy of available numbers, poor auditing and poor oversight. A vicious circle exists in which sub-sovereigns are unwilling to prepare or to open their books without seeing money on the table, and lenders are unwilling to make any move before the information is provided.

Budgetary support from central government is often a key determinant of sub-sovereigns financial strength. Yet it is common to find that the fiscal relationship between the central government and its sub-sovereigns is ill-defined or opaque. To the extent that this fiscal relationship is unclear,

potential lenders will discount the uncertainty fully, leading to higher costs and possibly withholding finance.

The panel recommends:

- Encourage central governments to provide incentives for good reporting by their sub-sovereigns—say by relating some central transfers to the quality of reporting.

- Promote a central agency to collect, publish and compare sub-sovereigns' financial and management information (including benchmarking of key operating parameters). The agency should encourage civil society to monitor whether the services received by the community are consistent with the reports received. The panel recommends that a small group of donors support such an agency, using public and private sector expertise in administrative, legal and financial areas.

- Encourage governments to define clearly their fiscal relationship with sub-sovereigns.

The short time horizon of some sub-sovereign officials (in some countries mayors are elected for three years) increases the likelihood of irresponsible behavior towards obligations taken on by predecessors. It is important to build transparency and to create incentives for good governance and disincentives for bad.

- Governments, with the help of donors, should be asked to promote the rating of sub-sovereigns, partly to enable transparency and tracking behavior.

- Governments should make the activities of sub-sovereigns more transparent, for instance by giving representatives of civil society a voice and a role in such reporting.

In many countries there are restrictive limits on borrowing by sub-sovereigns. Moreover many existing financial institutions are either constrained in, or prevented from, lending to sub-sovereigns. In many jurisdictions the legal basis for sub-sovereign financing is weak or even hostile.

It is entirely justifiable for a central government to set limits on the borrowing by sub-sovereigns, both in local currency and certainly in foreign currencies, for such borrowing needs to be within the sub-sovereigns' and the national carrying capacity. But in most domains this is taken to excess, and the limits are set not in the general interest but with a tendency to concentrate financial resources in the hands of the central government. Because central governments are borrowers themselves and tend to dominate domestic markets, they view sub-sovereigns as competitors rather than partners. While responsibility for infrastructure service provision has been devolved to sub-sovereigns, corresponding access to long-term credit markets has not.

This crowding out in domestic credit markets is achieved by a range of rules and requirements, the most common being instructions to banks, insurers and pension plans to hold a high proportion of their reserves in treasury bonds. But it is also supported by the way the laws are written. It is not going to be easy to persuade governments to make way for more sub-sovereign borrowing for water, when those governments are competing for the same funds. It will be essential to use effective persuasion to show governments the benefits of opening doors, even partially, for more sub-sovereign financing.

The position in domestic markets is mirrored by international institutional arrangements. Several MFIs, though not all, are constrained by their articles, or by the customary interpretation of their articles, from lending at the sub-sovereign level. Moreover most export credit agencies also have severe restrictions on the credit they can grant against sub-sovereign risk. These practices should be re-examined: it is vital to remove the impediments to international lending institutions financing sub-sovereigns. In addition it would be helpful to focus the extra marginal funds obtained from donors for water to this specific area. It should, of course, be recognised that the spread of more sub-sovereign lending will have implications for the pricing of loans, which would need to reflect the credit standing of the borrowers.

In principle, national development banks have a potentially important role as intermediaries between foreign lenders, central governments and sub-sovereign entities. A single national organisation would be able to deal with foreign MFIs and donors, and with local central government, given the potentially large number of sub-sovereign bodies wishing to borrow. The development banks would, over time, build up experience and intelligence about borrowers in a way that is not feasible for an external agency. If it worked on an appropriate scale, it could build up sector expertise and become an important technical partner and mentor for water projects. The bank would need to have the powers to recover loans in the event of difficulties. But it would be in a position to pool its risks from different borrowers. And investors, donors and MFIs would be able to deal with a single "window" in each country.

Despite these potential advantages, in practice the performance of many national development banks has been poor, due to inexperience and imprudent lending for political reasons. Many have had to be refinanced by national governments and central banks, drastically reformed, or even closed

down. Nevertheless, they are obvious types of intermediaries for sub-sovereign lending, and should be seriously considered, taking full account of the lessons of previous experience.

- Governments should consider taking steps to permit the prudent development of domestic borrowing markets for sub-sovereigns. These groups would also promulgate success stories in this area.

- Governments should encourage and facilitate the entry of rating agencies and bond insurance/ financial guarantee companies to their domestic capital markets.

- In the light of lessons learned from previous experience, and with appropriately reforms made, national development banks or specialised financial institutions should be considered as intermediaries channeling external and central government funds, and funds raised in local markets, to sub-sovereign bodies operating in the water sector.

- Governments should encourage the creation of credit pools for sub-sovereigns, with an option of joint and several liability.[34] This would give the sub-sovereigns themselves an interest in their peers' self-governance

- Governments should be encouraged to allow and facilitate limited intercepts into fiscal transfers to give lenders to sub-sovereigns partial security.

Many water projects have long payback periods and high externalities, so that it may be entirely appropriate to subsidise them. In addition constraints on tariffs, such as those paid by poor communities, may also provide economic and as social justification for subsidies. Sub-sovereigns are ill equipped to analyse and design such projects—and are badly placed to obtain funds from international sources, which mainly work through central governments.

- Donors should provide technical assistance to sub-sovereigns for analyzing and designing water projects.

- Donors should channel aid to sub-sovereigns requiring funding on concessional terms for water projects.

- Sub-sovereign entities should consider the option of retaining assets in public ownership, with continued public responsibility for investment finance, and with operations privately financed and managed.

The foregoing steps will expand the availability of finance, partly by stimulating a response from private markets. But it will be productive to set up a fund or a limited number of regional funds to channel resources to sub-sovereigns. Since sub-sovereign requirements for water are mainly in local currency, such funds should concentrate on partial guarantees, bond insurance or other enhancements that could be used to improve the credit quality of local currency instruments.

The need for subsidies also suggests that a fund may be required. Some of the needs can be met by direct subsidies from the sub-sovereign, central government, or aid donors, or by appropriate public-private partnerships where risks and costs are shared by the public sector. But it would also be highly productive to form a subsidized fund, whereby finance could be channeled to sub-sovereigns, for water sector projects, at costs below market (see below).

Promoting local capital markets and savings

Revenues of the water sector are nearly always in local currency, so funds raised abroad, serviced and repayable in foreign currencies, expose the borrower or investor to a foreign exchange risk. The panel was repeatedly told that this risk is a serious disincentive to the entry of foreign loans or equity to the water sector in emerging and developing countries.

Some larger countries (e.g. India, China, Brazil and South Africa, among others) have well established local capital markets, able to satisfy a good proportion of local borrowing needs. These markets typically offer short-term loans, and need to evolve a fuller range of long-term instruments to be able to satisfy the needs of the water sector. But a high proportion of their total debt is denominated in local currency and immune to devaluation risk. However, access to local funding sometimes remains difficult for instance in China, local funding being prohibited by law from financing acquisitions.

In the majority of countries, however, domestic banks and other financial intermediaries are unable to satisfy the local demand for secure savings outlets and sources of loans. Water, as an infrastructure sector with a long repayment horizon, has specific problems in attracting local capital, though banks will take part in well-structured schemes, in which other parties can provide the required overall length of maturity.

Active *local development banks* could attract local capital as participants or investment partners. There is also a specific value in using guarantees that effectively lengthen the term of loans. In most countries, very few lenders are willing to go beyond a term of a few years, too short for major water projects. But using a *partial credit guarantee* covering some of

the later repayments effectively stretches the loan term to make it more appealing to borrowers. The *partial risk guarantee* can complement this by covering other repayment risks. The two guarantees can lengthen the term and reduce the interest spread on loans and bonds raised in local and foreign markets. A number of international financial institutions and bilateral agencies offer these products, but the conditions for their implementation are not always met in a specific project, due to the lack of a proper legal framework or clear sharing of responsibilities between Central and Local Authorities.

Local *pension funds* and other *institutional investors* such as mutual funds are potentially large sources of funding for water projects.[35] In a number of emerging markets pension funds are likely to grow, starting from a modest base, and are well placed to provide local currency funding, if the right savings instruments and security are available. Pension funds can take a long view, and have a natural interest in long-term savings instruments, including those offering stable returns. Because of their strong fiduciary commitment, pension funds are limited in the risks they can take. But many of them would be attracted to "socially responsible" investment outlets.[36] Moreover, water has a reliable and consistent earnings stream over the long term

- For these reasons, the panel believes there is potential in the MFIs' use of instruments such as Partial Credit Guarantees and their efforts to raise more bonds in local currency. These activities encourage the growth of local currency markets, increase the supply of funds for the water sector and strengthen balance sheets of the pension funds through building a better currency and asset/liability match for the local savings. Some MFIs are also now offering long term fixed interest rate local currency loans, and local currency swaps. These initiatives should also be encouraged and expanded.

- Governments and central banks should put in place measures to promote local capital markets and address problems caused by their own actions in 'crowding out' other borrowers.

International financial institutions and other agencies extend their use of partial credit and partial risk guarantees to promote local capital markets and encourage the use of local pension funds in the water sector—and urgently address statutory and managerial obstacles to their further use for this purpose.

Sustainable cost recovery

Increasing the resource mobilisation for water must start with closing the revenue cycle. Only operators or water authorities that generate sufficient cash can operate and maintain present systems and attract investments for expanding services and improving management. Water services and management are always paid for by someone—inevitably consumers (through user tariffs) or taxpayers (from fiscal resources) or to a much smaller extent by bilateral and multilateral assistance. Closing the revenue cycle depends on both reducing costs and increasing revenues.

At present, it is common for the revenue from water tariffs to cover only part of the recurrent costs of urban household water services. It is rare for tariff revenues to contribute to capital expenses in municipal schemes. As long as this situation persists, water authorities depend on subsidies to cover part of their recurrent costs and virtually all their capital spending on expansion and modernisation. Budgetary constraints are a chronic brake on the sector, and water authorities slip into an attitude of dependency on central government and aid funding. They cannot develop long-term plans. It is also wrong to think that tax revenues are a more obvious source than tariffs, in poor countries with weak fiscal systems and many other urgent claims on the public purse.

For water supply and sanitation, the panel believes that full cost recovery from users is the ideal long-term aim. However, it recognises that there are situations where full cost recovery is not feasible, or even desirable, in the foreseeable future. The situation of large, affluent cities is clearly different from that of scattered and poor rural settlements. Families already in the cash economy are better placed to pay than those still outside it. People coming into a public system for the first time may need special encouragement through subsidies. The device of cross-subsidies to households from other sectors, or from more affluent consumers, is not available in systems where the majority of users are poor. Some countries have chosen to supply each consumer with a free basic quota of water. In these and other cases, public subsidies may continue to be part of the financing solution.

The panel therefore proposes the concept of *sustainable cost recovery* as a way of giving the water sector the financial assurance it needs, while acknowledging affordability problems and the case for subsidies in certain cases. It proposes that the aim of water service providers should be sustainable cost recovery, which means that:

- Service providers should aim for revenues sufficient to cover their recurrent costs, and they should develop sus-

tainable long-term cost recovery policies, anticipating all future cash flow needs. Sustainable cost recovery includes operating and financing costs as well as the cost of renewing existing infrastructure.

- Revenues arising from charges should be covered by users as a group. Under sustainable cost recovery, not all users need pay the same price. Individual affordability of water charges should be ensured by appropriate tariff structures including local cross-subsidisation (for example, by setting a rising block tariff structure) and/or by individually targeted and transparent pro-poor policies.

- The part of recurrent revenues provided by taxpayers from public budgets should be secured by agreeing well in advance to the allocation of sufficient fiscal transfers.

From experience of tariff reforms, raising revenue creates a "virtuous circle" leading to improvements in service, expansion of the system creating further revenues, attraction of external funding and investment, and releasing public funds for those purposes that genuinely need subsidising. The panel has been repeatedly told that even poor urban people are willing to pay for water, though politicians are often reluctant to charge them higher tariffs. Affordability, and ways of achieving it, are the keys to charging adequate tariffs.

One rule of thumb that is useful in some cases (e.g. planning water supply in Asian cities) is that urban households are able to afford to pay up to 5% of their incomes on water services.[37] Intelligent tariff design is fundamental. It is well known that poor people, without their own connections, buy from vendors or neighbours at many times the price per unit that is paid by those with connections. But this is usually for small quantities of water, and, once connected, poor families may need relief from paying the full tariffs. Realistically, there will be systems (in poor, isolated or rural communities) where affordability is a distant prospect and some subsidy inevitable, at least in the short term.

Sustainable cost recovery must therefore allow for wide variations in payment capacity. It is useful to distinguish urban, peri-urban and rural consumers. Many urban utilities offer the promise of complete cost recovery for water supply systems but most peri-urban often require their investment costs to be subsidised. When they are served by a large utility, cross-subsidies are feasible and will not threaten the utility's financial sustainability. Many rural water supply and sanitation systems are unlikely to recover more than a portion of investment costs, in addition to paying for operations and maintenance costs, which is a minimum for ensuring sustainability of operations.

There are various ways of using subsidies, but the general principles are that they should be *affordable* (general budgets are adequate to support them), *targeted* to the groups intended to benefit, and *transparent* (visible to the public and identifiable in public accounts).

Where they are available, social security payments can subsidise the water bills of poor families and other deserving cases (this is the system operated to good effect in Chile). Cross-subsidy is another option, using higher rates paid by consumers in other sectors (such as industry) to lower rates paid by the poor. A common device is to use a stepped (progressive) tariff, with the initial amounts free or cheap, followed by higher unit tariffs for larger amounts of consumption (though this would not help large families). In some countries, a free basic ration is provided, underwritten in the last resort by the government. A highly efficient way of subsidising the poor is to give them connections at a subsidised cost that they can afford. Where subsidies are used to cover the transition to full cost-recovering tariffs, they should be *tapering*.

- Where subsidies are used they should be targeted, transparent and, where they are intended to ease the transition to higher tariffs, tapering.

Where public subsidies form an important part of water revenues, they should be agreed to far enough in advance to give the water authorities the assurance they need to plan their future operations and investment plans (water projects often take many years in gestation). Many governments cannot give such assurances for future years, and in such cases it is wise for the water sector to be as financially self-reliant as possible. It is an obvious point that governments that decide to subsidise water need to have credible fiscal policies.

Increasing managerial capacity

Many of the water sector's problems originate in its weak organisations, which often reflect the wider political, administrative and financial problems of the societies in which they operate. Waiting to solve these problems, and making good governance a precondition of further international support to the water sector, would make the Millennium timetable unattainable and abandon many of its intended beneficiaries to their fate. The panel's proposals on strengthening sub-sovereign bodies, helping local communities, developing contractual capacity and the like will all help the cause of capacity building. But they do not satisfy the need for better performance of government in its core responsibilities, the urgency of which was repeatedly brought home to the panel.

The report has called for national water strategies to be produced, as the means of defining and implementing a water policy. And it cites competent and independent regulators and supervisors as necessary when delegating to sub-sovereigns and semi-public bodies, and when considering private participation. Technical assistance for capacity-building in public administrations has a long history—of not being particularly effective. Nor is it very popular with donors, who find it difficult to attach a clear national identity (a "flag") to this type of aid. It is much easier to raise large sums of ODA for capital investments than to raise tiny sums for the administrative capacity building so vital for making investments effective.

Even so, the panel believes that it is of extreme importance to strengthen the skills of managers dealing with water issues in public authorities, at the government, municipal or community levels.

- Funding for capacity development in water-related institutions at government, municipal and community levels should be a high priority for the use of ODA and MFI funds.

- Donors should finance trust funds in the MFIs for using specialists with strong practical experience at the appropriate level in the transfer of skills.

With 97% of the population of poor and emerging countries at least notionally served by public utilities, the panel believes that it is not only essential to train the managers in the public authorities that regulate the utilities but also to attract and train good managers inside the public utilities themselves. The panel is attracted to cooperation agreements—between public authorities as well as utilities on both sides—that define clearly the respective roles of the "advisor" and of the "recipient" bodies. The panel recommends using the decentralised nature of water supply as an opportunity for healthy competition among public, private and community-based solutions.

The involvement of reputable public institutions, from other parts of the country or abroad, could greatly strengthen core bodies and improve the governance of the sector. Traditional "twinning" arrangements have had limited success, mainly because the arrangements lacked any real incentives or genuine commitment from the two parties. Recent "reinforced twinning" arrangements have introduced stronger incentives (between the Nordic cities and those in the Baltic states and Russia). This is an example of "decentralised cooperation".

The panel recommends donors to give grants and technical assistance in support of these cooperation agreements

- Donors should support cooperation agreements involving experienced and reputable public partners, as a means of strengthening core public capacities. These agreements should state mutual responsibilities and contain performance targets and incentives applying to both parties.

The panel believes that most effective learning happens "on the job", in "learning by doing". Organisations and people within them learn best when they work on problems jointly with more experienced colleagues and partners. South-South cooperation (between countries at a similar level of development or cultural background) is often cost-effective. This kind of assistance will need grant funding, allowing contributions to be matched flexibly and in a timely manner to specific requirements.

- The panel recommends the concept of jointly working on problems and "learning while doing" in public-public partnerships as well as in cooperation agreements between utilities and companies. Such cooperation is possible either within a country, or in a North-South or South-South[38] manner.

Learning while doing is also relevant to improved project preparation through the concept of "action planning". For example, within an approved investment programme, capacity building should start early, even during the planning process. For this to happen, some funding has to be available before project preparation is completed and before the final loan or management contract is signed. This preliminary funding may later be consolidated in the contract agreement—or it could be provided, possibly together with capacity development services, from development agencies specialising in this. Local partners would gain experience and credibility in the planning process, and increase their sense of "ownership" of the project. It would also reduce the lead time entailed in major investments and alleviate the severe strain most administrations will experience as they try to meet the MDG targets[39].

- In pursuing the MDG targets donors should support "action planning", in which planning and project preparation are wrapped into aid projects.

The collection and publication of comparative performance data for different water authorities is an important spur to improving performance (as in the AsDB's Water Utilities Data Book and the African Water Utility Partnership's benchmarking project). Water managers can draw on existing networks of water professionals, meeting regularly to exchange experience in gatherings organised by the International Water Association and its regional counterparts (such as the Union Africaine des Distributeurs d'Eau or the Asociacion

Interamericana de Ingenieria Sanitaria y Ambiental. The efforts of these associations in organising training courses and benchmarking surveys deserve recognition and support.

- ODA should be provided for the work of regional professional associations in support of training, professional exchanges, and data collection and benchmarking.

Another field of application of "learning while doing" is the preparation and implementation of contracts through such schemes as Build Operate Transfer (BOT), Design Build Finance Operate (DBFO), Build Own Operate (BOO), concessions and O & M contracts. These kinds of contract all involve important transfers of skills from private to public partners. This kind of on-the-job approach to learning is usually very effective.

- ODA technical cooperation should be used to help in the preparation, structuring and implementation of contracts such as BOT and other kinds of concession, operation & maintenance contracts, management contracts and leases, as a means of enhancing on-the-job capacity building.

Corruption and ethical practices

Corruption can arise among public and private, local and international participants in the water sector. It distorts projects, damages the operating environment and discourages responsible investors. Eradicating it, especially from societies where it is endemic will not be easy. The panel's proposals on sub-sovereign entities, contracts, and other matters will contribute to institutional reform, better administration, transparency and more open and rigorous commercial practices.

- Capacity development in the core public institutions of the water sector should aim to define and implement a water policy, set a regulatory framework and create a basis for commissioning and controlling executing work, whether performed by private or public agents.

- Executing agencies should be made attractive for high-calibre leadership, accountable for performance and delivery. Integrity standards should be worked out cooperatively by all interested parties.

- The decentralised nature of water services is an opportunity for different mixes of public, private and self-help options, and for competition between them. The choice among them should be pragmatic, eschewing ideology.

- The high political profile of water should be used positively to create more transparency for its operations. Public opinion, user associations and NGOs should be encouraged to monitor and publicise the activities of water organisations and expose corrupt practices.

Multinational companies involved in water ventures are preoccupied by urgent concerns affecting their further engagement in the sector. Against this background, the efforts to involve them in exercises like Transparency International's Integrity Pact or work on joint ethical standards for the sector has made little progress. The same is true, though for different reasons, of contractors and consultants in the water sector. The outlook may change with a more favourable international financial outlook and with measures to mitigate foreign exchange and other risks. Private companies are urged, in their self-interest, to engage in the development of ethical standards of behaviour for the water sector. The panel has noted with appreciation the contribution of NGOs, such as Transparency International, in assisting with these efforts.

None of the above implies that corruption is absent in public sector contractors, or that the problem is worse in private companies. Both private and public contractors are urged to develop codes and standards that place their behaviour above reproach.

- Political obstacles to private sector participation in water exist. One of these is a perception of corruption in some previous dealings. Companies engaged in the water sector are urged to cooperate with other parties involved to develop methods for promoting ethical behaviour. Public water authorities and public sector contractors also need to develop codes and standards that place their behaviour above reproach. Private participation transactions should be made more transparent—for example, through competitive bidding and including requirements to publish contracts.

The legal and regulatory environment

Despite the evident importance of new investment in the water sector, very few new sound projects are presented to potential investors and financiers, public or private. In the current international economic climate, even fewer are likely to come forward unless action is taken to increase the pipeline of good, well-prepared projects, which is essential to meet the challenge of global urbanisation. Only better structured projects, meaning those with a better and clearly defined risk allocation and with efficiently managed tendering and transactional processes, would increase long-term investment in the water sector, by both public and private sectors.

The panel agrees that an adequate legal and regulatory framework is a pre-condition for attracting more commercial finance or private investment. In brief, the legal framework should permit the matrix of rights and obligations that make up a bankable project and its commercial and funding structure to be confidently put in place, with the assurance that relevant contracts will be enforceable in accord with their terms.

A major problem faced by international investors in water projects is the risk of renegotiating of the contract during the life of the public-private partnership. Removing weaknesses of the tendering process and procedures, and improving their transparency, would reduce the risk of project failure, often caused by overbidding and underbidding, due to inadequate information about the project at the tender stage.

Effective laws on the central-local fiscal relationship would allow the interception of central-periphery fiscal transfers. Their use as collateral would greatly enhance the financeabilty of water infrastructure projects (Mexico is an example of the use of central-periphery transfer funds as project security). Moreover, effective laws on private financing of public infrastructures could facilitate the "pooling" of several public borrowers—which by jointly and severally guaranteeing each other's financial obligations, could greatly reduce the cost of borrowing or even make the borrowing possible in the first place.

Achieving a sound general legal framework will not be done overnight. While urging the wider adoption of measures based on best practice, the panel proposes a more modest contribution, focusing on two related aspects: creating of a fund or funds to be used for complex tendering, and studying into the practicality of producing a handbook of best practice and model clauses for public-private partnerships.

The panel recommends:

- The creation of a Revolving Fund or funds consisting of grant money to finance the preparation and structuring costs of complex projects (including private sector participation and other innovative structures). The fund would be used to cover the legal, financial and technical advisory costs of the preparation and structuring of projects up to and including the tendering and negotiation phases.

The Fund would be replenished, partly or totally, by the public partner on the award of the project to the successful bidder. If a project were cancelled, all or an appropriate amount of the grant would be reimbursed to the Fund by the public institutions in charge of the development of the project. Although the Fund would be available equally for projects implemented by the public and private sector, it would have a particular impact on the attraction of private partners, now an objective of many governments.

Although other funds for helping project preparation exist, this one would be dedicated to the water sector. In general, donor governments and development agencies are reluctant to finance technical assistance of this type, so the Fund would fill a gap in the current structure of development finance.[40]

A second proposal aims to streamline the approach to public-private infrastructure projects, currently one of the most problematic, time-consuming and costly aspects of commercial law. The panel recommends that:

- A study should be funded for the preparation of best practice and model clauses in the legal agreements of public-private partnerships, with particular reference to the water sector. The panel wishes to draw the attention of relevant institutions to the urgent need for this initiative.[41]

Financial instruments and facilities

This section deals with methods of increasing external financial flows into water, organised according to the main sources of these funds (internally generated and other domestic sources are dealt with in the previous section).

Official development assistance (ODA)

Official development assistance (ODA) comprises financial transfers with a minimum grant element of 25% as stipulated by the OECD's Development Assistance Committee ("DAC"). Commonly known as "aid", most of it consists of government-to-government transfers from OECD member states, so-called "bilateral" aid. A minor, but still substantial portion is "multilateral" ODA from the World Bank's International Development Association (IDA), the concessional funds operated by the regional development banks, the various aid funds of the European Union and several UN agencies including the UN Development Programme (UNDP).

The multilateral development agencies mentioned above also lend large amounts of "non-concessional" funds at near-market rates. Although this is not ODA in the literal DAC sense, it is available on more attractive terms than commercial finance from banks and other lenders. In this report, unless otherwise specified, references to ODA in general, or

proposals to increase ODA for water projects, improved governance and capacity building are directed both at bilateral and multilateral sources, including the non-concessional lending of the MFIs. We return to the MFIs again in the next section to discuss specific features of their operations.

There are also bilateral agencies having a development purpose but with more commercial practices, offering equity, guarantees and/or loans at, or close to, market terms (the German KFW, the French AFD, the UK's CDC, the Japanese JBIC and others). They have much in common with the MFIs (section 5.3.2).

ODA for the water sector has been declining in recent years, partly because of the general decline of aid, partly because of the sharp drop in aid for large dams and water storage schemes. The prospects for a reversal of this trend have recently improved. With the Monterrey Consensus, the decline in ODA should be reversed—and it should increase by 25%—or $12.5 billion—by 2006. G8 leaders also declared in Kananaskis that they believed "that in aggregate half or more of our new ODA could be directed to African nations that govern justly, invest in their own people and promote economic freedom...this will help ensure that no country genuinely committed to poverty reduction, good governance and economic reform will be denied the chance to achieve the Millennium Goals through lack of finance."

If implemented, such commitments, even if insufficient in their amounts, could nevertheless have a decisive role in catalysing more sizeable public and private financing over the next few years. But a special effort should be made in the water sector, where the proportion of aid remains low. In constant dollars, DAC members' bilateral aid to the water sector increased over two decades at an annual average of 9%. The downward trend since the middle of the 1990s is a reflection of ODA in general, although aid to water started decreasing later than that of other sectors.

The share of aid to water supply and sanitation in total ODA remained relatively stable in the 1990s at 6% of bilateral and 4–5% of multilateral ODA. In recent years, total aid allocations to the water sector have averaged about $3 billion a year. An additional $1–1.5 billion a year is allocated to the water sector in the form of non-concessional lending by the major MFIs. Japan is by far the largest donor in the sector in value terms, accounting for about one-third of total aid to water. Funding by IDA, Germany, the United States, France, the United Kingdom and the European Commission amount to another 44% of the total.

The 1998 DAC Development Cooperation Report showed that aid in the water sector was highly concentrated in a relatively small number of recipient countries. In 1995–96, for example, nearly two-thirds of total aid to the water sector was allocated to only 10 recipients. The data show broadening in focus in recent years. In 1997–2001 the 10 largest recipients received 48% of total aid to the water sector. China, India, Vietnam, Peru, Morocco and Egypt remained on the top ten list. Turkey, Indonesia, Tunisia and Sri Lanka were replaced by Mexico, Malaysia, Jordan and Palestinian administered areas.

Another finding of the 1998 analysis was that many countries with a large proportion of the population not having access to safe water received very little, if any, aid to this sector. This still seems to be the case. Only 12% of total aid to the water sector in 2000–01 was allocated to countries where less than 60% of the population had access to an improved water source, which includes most of the least developed countries.

- Governments of developed countries should be held to account for their commitments to increase aid to the water sector. Overall ODA for water should be doubled, as a first step.

- Individual donors should contribute their share towards this target, depending on the size of their current aid to the water sector. This ODA increase should preferably be done by increasing the amounts of grants. Donors and MFIs should aim to make substantial increases in the share of water in their total commitments

These decisions should be seen as a clear demonstration of the strength of commitment of the OECD countries to contribute their own share for the implementation of the water MDGs. But in view of the huge magnitude of the needs—particularly for rural populations—and of the very low level of the present contributions to this sector, this doubling can only be considered as a first step. If the other forms of support we suggest materialise promptly—particularly in governance, training local managers, preparing projects—higher amounts of ODA will need to be considered. Once systems are reformed as suggested, the investment of these resources could contribute much more effectively to achieving the MDG.

To ensure that these quantitative efforts make a major difference, we expect that the increase in ODA will have to go alongside ways of increasing its effectiveness.

- Donor agencies should work, under the guidance of the OECD's Development Assistance Committee, to implement the DAC's recommendations on increasing the effectiveness of aid. They should aim to coordinate their

efforts in this sector, and avoid the waste and fragmentation typical of earlier water programmes.

Even if the ODA for water doubled, and its effective use could be assured, there could be problems in matching the annual amounts available with actual requirements. And could be serious time lags before the flow of funds reached the required levels.

- In view of the capital-intensive nature of water investments, and the need for front-loading of ODA, means should be found for governments to create a special national or international facility to pre-finance disbursements budgeted for a later period.

In view if the quality of the signature of the OECD countries, such a facility would benefit from AAA rating, and would enable more ODA financing to be provided at the most critical moment for the achievement of our goals. The panel has been encouraged to hear that suggestions of a similar nature are being presented by the Chancellor of Exchequer for consideration by the G8 countries. We strongly support their adoption.

There is a risk, and the panel is sensitive to it, that a major increase in the availability of grant aid for water projects would "crowd out" commercial lending and discourage water authorities from becoming more financially self-sustaining. Hence the importance of using aid to facilitate other flows, instead of replacing them. This requires judgment in each case, but it would be helpful for donors to operate only within coherent national water strategies, and they should use ODA to influence reform of water institutions to improve their commercial and financial autonomy.

- Rather than funding entire projects or programmes through grants, with the risk of smothering local initiatives and discouraging financial self-sufficiency, donors should regard their funds as catalysts to mobilise other flows and empower other players

Another method of generating more resources for the water sector is through "debt for water" swaps.

- The panel encourages the parties involved to enter into "debt for water" swaps as a means of increasing local currency funds available for water projects

We also call the attention of OECD governments to the fact that the significant efforts we suggest in the field of guarantees deserve to be properly reflected alongside other forms of official assistance, in the ODA statistics of the Development Assistance Committee (DAC). The current reporting conventions reflect guarantees only when they give rise to actual disbursements—for instance, after default. We believe that this does not fully reflect the real size of the contingent liabilities accepted at a given moment by a donor country.

- We invite the DAC to consider amending its presentations of national ODA performance to reflect properly the status of guarantees.

Making better use of ODA

Despite this welcome prospect, extra aid will finance only a minor part of the increased funds required. It is important to make the best use of it by focusing it both geographically and within certain parts of the water sector. It should also be used to back certain important multilateral initiatives.

- Geographically, ODA should favour countries, especially in Africa, where the water service deficit is greatest and where most remains to be done to meet the water MDG targets.

- Within countries, grant ODA for water and sanitation should be directed to regions, settlements and social groups where public subsidy is necessary.

- Within the water sector, ODA should also be used for services that have to be financed publicly because it is not feasible to provide them privately, such as water resource management, large water storage schemes, flood control, capacity building and major irrigation and drainage projects.

- Bilateral ODA should be applied in support of various current important multilateral initiatives, such as the African Water Initiative, AfDB's Rural Water Supply and Sanitation Initiative and the FAO's Special Programme of Food Security, among others.

The Panel would like to commend the African Development Bank initiative (see annex 2) which addresses squarely and convincingly the difficult issue of the partnership for water at grass-roots level and which aims to catalyse the neccessary joint action of governments, local municipalities, communities and NGOs as providers of finance and technical assistance. The African Development Bank would also be the channel for donor grant support. Other regional development banks could consider, if appropriate, adopting similar schemes.

Aid should be applied imaginatively and creatively alongside other sources of funds, such as local revenues, voluntary donations, bank loans and private capital—to leverage the

Box 4.1 Output-based aid[43]

Output-based aid (OBA) is a strategy for providing subsidies to support the delivery of water and other basic services. In essence, it ties the disbursement of public funding (whether sourced from government resources, bilateral donors, or multilateral agencies) to specific services or other outputs delivered by private firms or NGOs. This contrasts with traditional approaches of directing public funding to pipes, pumps, or treatment plants or other inputs used by public sector providers.

Output-based aid has four main applications in the water sector. It can be used for on-going consumption subsidies, as in Chile, where subsidies are used to reimburse water bills of the target group of low-income consumers. It can be used to support the expansion of existing water or sewer networks, such as when disbursement of the funding is tied to the number of new connections made and served. It can be used to implement time bound subsidies to ease the transition to cost-covering tariffs. Or disbursement of subsidies can be tied to the achievement of specific environmental targets (such as the volume of wastewater treated to a certain standard). All four approaches promise better targeting of intended beneficiaries or outcomes, sharpen accountability for results, improve incentives for efficiency and help to mobilise private finance in support of development objectives.

The World Bank launched its pilot output-based aid program in 2002, and is currently working on pilot projects in the water sector in several regions. A Global Partnership on Output-Based Aid was launched in 2003 to facilitate collaboration on OBA issues with other official agencies.

maximum total financial flows for this sector. It is important for transparency and accountability purposes that the benefits of aid should be clearly targeted to the beneficiary groups, and that the association of aid with private funds clearly provides public benefits. There are several ways this can be done.

First, aid can cover the initial overhead costs of the host organisations for creating institutions and preparing projects. This could include providing "seed capital" or equity for revolving funds, replenished from user charges or other sources.

Second, ODA can be used to provide guarantees, for a fee, against some of the key risks in the water sector.

Third, attracting much interest, is "output-based" aid, is given in association with commercial finance for infrastructure services, carefully targeting the subsidy payments to specified works or social services actually provided. This kind of aid can also be used to target the poor more accurately[42] (Box 4.1.).

The panel recommends:

- Aid should be used to catalyse other financial flows by such means as funding initial overhead costs, providing equity for revolving funds, guarantees, and subsidies targeted to performance (such as output-based aid).

- Donors should report annually about the impact of their aid on achieving the water MDGs by publishing:
  - The number of people they have helped to get access to water and sanitation.
  - The average "aid efficiency" of their water project: the above number of people divided by the grant value of their aid.
  - The "leverage effect" of their aid: namely, the total amount of financing mobilised on water projects they have aided.

Multinational Financial Institutions (MFIs)[44]

MFIs are important funders of water, through their grants, loans and guarantees. Their track record is commendable and they have great potential to do more. Although their loans cover only a minor part of current investment needs, they set the tone for others through their dialogues with government recipients and the understandings they reach. They can also mitigate risks for other players. They could lend more without a proportionate increase in their borrowings or callable capital, if certain of their constraints were relaxed.

The Panel is of the view that the MFI contribution will be central in the overall strategy to provide the needed financing where it is still missing, particularly at the most decentralised level. This problem is so acute that it calls for a reversal of the financial architecture. This concern lies behind several of the following proposals and it explains in particular our strong support for the implementation of the African Development Bank's "Rural water supply and sanitation initiative" and our invitation to other regional development banks to follow suit. As a strategic choice, we encourage the important new orientations the World Bank Group is undertaking.

- We recommend that, so far as possible, new instruments should be located in and coordinated by the regional development banks, which are in close touch with regional water policies and which can maintain links with communities and have an awareness of local circumstances.

Lending more to water implies lending more to sub-sovereign entities who cannot avail themselves of a government guarantee. A number of the MFIs are barred, or bar themselves, from lending without a sovereign guarantee. More recently established MFIs (such as the EBRD) have no such limitation. The panel has no wish to encourage MFIs to exceed prudent lending and encourage excessive borrowing by weak sub-sovereign bodies. But, equally, it urges MFIs to equip them-

selves to lend to such bodies where it is prudent, appropriate and within their mission to do so. This may in some cases involve a revision of their constitution, but is more likely to entail managerial and board decisions to reinterpret existing statutes and practice.

- MFIs that do not now lend to sub-sovereign entities should reconsider their policies, with the aim of permitting such lending subject to normal prudential criteria.

The panel is strongly of the belief that one of the most important ways in which MFIs can increase funding for water is through the much greater use of their guarantee programmes to leverage other kinds of finance[45]. But this would call for changes in MFIs' policies on the way guarantees are "scored." One issue is "provisioning", the way in which loans and other instruments are treated as potential calls on reserves and capital. The panel understands that guarantees, and other types of contingency instruments, are treated on fully the same basis as loans, in other words as if a guarantee were loan exposure for 100% of the amount. This discourages the use of guarantees. The panel believes it is important to change these practices, if the MFIs are to fulfil their important potential role in this sector.

- MFIs should revise their policies on capital provisioning, where these are undue constraints on the use of guarantees.

Guarantees are important credit enhancement instruments that MFIs use to facilitate the flow of long-term debt, local and foreign, to fund water infrastructure. Flexibility is needed for the effective use of these instruments. Most MFIs are able to issue guarantees on a standalone basis. But some others are constrained by their articles, limiting their guarantees to loans in which they participate. Such participation requirements complicates the structuring of financing transactions since the MFI concerned has to make a direct loan to the borrower even if a guarantee is all that is required.

- Those MFIs subject to the participation requirement should consider amending their articles to enable them to have the freedom to issue guarantees on a standalone basis.

Financing major hydraulic works

In the 1990s there was a backlash against the construction of dams, reservoirs, water transfer schemes and other major hydraulic works. Criticisms were based on the distress and costs imposed on resettled populations, the adverse environmental impact of the structures, widespread cost overruns and the disappointing outcomes of many of these projects. Much more rigorous and exhaustive procedures and standards have been urged on the sponsors and funders of dams in particular.

The practical effect of this hardening of attitude has been the virtual cessation of lending by the World Bank and IADB for dams and associated irrigation projects, a decline in lending by the AsDB and AfDB, and a decline in interventions by the bilateral donors. This has been particularly serious for smaller or poorer countries, which are normally more dependent on ODA and MFI funding. Those developing countries that could afford it have continued to plan and build such schemes under their own efforts, without the benefit of aid and MFI advice and assistance, and often with lesser environmental and social standards than would otherwise have been applied. Some countries, especially in Africa, where the need for storage is most urgent, have endured crucial delays in projects and postponement of urgent works due to lack of financial support.

The panel recognises the force of many of the criticisms, but believes that the pendulum has swung too far in the other direction. The reaction to dams appears to have been excessive and counter-productive. A resumption of aid and MFI lending to water storage and related projects, subject to adequate social and environmental safeguards, is called for to meet the future needs for water storage, flood control and irrigation development. Africa, in particular, is grossly underprovided for in this respect, and suffers the extremes of drought and flood as a result. In many places water availability is decreasing because of depletion or pollution of underground watertables (due to climate change, lack of protection or overabstraction). In many areas, achieving the water MDGs in a sustainable way will require restoring watertables and creating underground storage

A reengagement in this sector by MFIs and donors would be welcomed by authorities and beneficiaries in the recipient countries. A positive sign of the tide turning was the commitment by the World Bank in its Water Resources Strategy for a reengagement with this kind of "high-risk/high-reward" infrastructure and the preparation of "a new business model which puts development risk first, and which aims at timely, predictable and transparent decisions"[46].

- MFIs and donors should resume lending to essential surface and underground water storage projects, subject to adequate social and environmental safeguards

International commercial lending

There are various categories of international commercial lending, whether bank loans or bonds. Sovereign loans and bond issues are made against a guarantee of the government of the host country. Commercial lending to utility projects falls into two broad categories: recourse and non-recourse. Recourse lending implies lending to companies or corporations which then choose to invest in projects, the risk remaining with the borrower: that is, the corporation. Non-recourse lending, also known as project finance, involves lending to a special purpose vehicle with no or limited recourse back to the parent company which may be a sponsor of, or shareholder to, the vehicle.

In the case of sovereign loans and recourse loans to corporate borrowers, the funds will not generally be earmarked for specific projects or sectors such as water. Such full recourse loans have the attraction of being simpler and quicker to place than non-recourse, project finance loans. The drawbacks may outweigh the benefits, however. Changing priorities mean that funds are sometimes spent elsewhere. There may be constraints of balance sheet capacity—*de facto* limits on corporate gearing or not wanting to place unwanted risk or liabilities on the balance sheet. Then there is the difficulty in accommodating partners or sponsors of entirely different creditworthiness.

Project finance

Project finance lending involves taking full exposure to the special purpose vehicle with servicing and eventual repayment of the debt contingent on the financial health or otherwise of that entity rather than its parent. Since loan repayment is dependent on project cashflows alone, projects are generally well structured with the project risks allocated explicitly by a contractual framework to those parties best able to manage or mitigate each specific risk.

The project finance industry considers risks to fall into different categories:

- Sovereign, or political: the risks associated with operating in a given country or region. Sovereign risks include nationalisation, expropriation, currency convertibility, breach of contract, war, and riot. The risk is usually narrowly defined by insurers and gaurantors whereas its real scope can be very wide.

- Commercial: such risks are often split into the pre-completion phase and the post-completion phase, where completion involves the end of construction and the hand-over of the assets to the project's operator. Pre-completion risks include construction, delays and cost over-runs. Post-completion include operating risk, technology, revenues and market risk, force majeure.

Project finance has provided a ready source of funding for projects around the world, particularly in the heydays of the 1990s. Indeed global project finance lending (all sectors) in 2002 was $76 billion, itself a 43% reduction on the previous year for reasons discussed below. Despite these huge sums of money, only $157 million (less than 0.3%) was applied to water and sewerage projects. And in 2000, 2001 and 2002 no bonds were issued in the water sector.[47]

Over the past few years it appears that only bank loans—whether international or domestic—have been used to finance private-sector water projects. Bond finance through the debt capital markets does however remain a possibility for the future. In the first instance though, project complexity, challenging credit ratings and a general lack of track record in water sector projects seem likely to restrict bond investor appetite for water project financing, particularly in the emerging markets.

On the loan side is the impact of several adverse factors: the global economic slowdown; the effects of 'flight to quality' following the scandals at companies such as Enron and WorldCom; the impact of the events on September 11th 2001; devaluations and financial stresses in key South American markets; bank mergers which have had the effect of reducing capacity; and large bank exposure to merchant risk in the US and UK power sectors. Furthermore the potential threat posed by adverse changes to the treatment of project finance loans by the Basel Committee in the form of higher Tier 1 equity capital requirements has not yet been factored in (see below).

Each of these factors is acting to reduce international bank demand for overseas—particularly emerging market—loan exposure. But, there prevails a view that projects of an international configuration that are 'well-structured', itself a comparative concept, will find international commercial bank appetite to lend to them. Such projects may be deemed 'bankable'.

'Bankable' projects and risk allocation

The banks' view will in general be driven by commercial factors, and it will be necessary for projects to be seen as 'bankable' so that money is lent, the project happens, and the loan is repaid. The private sector will not be lending money to ventures where the economics do not make sense and there is no chance of loans being repaid and investment recouped.

Banks will see sovereign risk as the major issue in emerging market water project financing. Commercial risk allocation in general should not prove overly contentious. Risks should be allocated to the party best able to bear them: construction to contractors, operation to water companies, commercial insurance to insurers/underwriters.

Sovereign risks

Past experience has led banks to be wary of the political risks: nationalisation; expropriation; breach of contract; currency devaluation, transferability and convertibility; war, riot and social upheaval. Another important issue is whether the country—regardless of credit standing or wealth—has a track record in developing projects over the years. The regulatory environment and the government's commitment to stability will also be critical.

Banks will not accept much in the way of sovereign risks—certainly not to the long tenors required. Such risks for any reasonable maturity will require the involvement of export credit agencies and MFIs to provide insurance or guarantees [48] for the sovereign element of project risk. Export credits may also be made in the form of direct loans to importing organisations or projects.

In this respect, it would help if the rules of sovereign risk insurance and guarantees were simplified, and documentation requirements relaxed.

Commercial concerns

In the eyes of lenders, the tariff should be economic, fair and based on sustainable cost recovery. Tariffs tend to be a political issue. Equity returns must be set high enough to be a fair reflection of the risk being borne by investors, which is important also for lenders because the equity is the 'cushion' to debt service. In this respect, care should be taken pricing tariffs in neighbouring regions. Anomalies in water tariffs in adjacent regions can cause consumer dissatisfaction and promote tension with customers.

Financial risks such as inflation and real interest rates will be for the account of the water off-takers or charge payers. The tariff payable for the water services will be indexed to insulate the project from such macroeconomic factors. The project should not be exposed to risks of devaluation, transferability or convertibility (the panel's proposal for a Devaluation Liquidity Backstop Facility, discussed below, is relevant here).

The risk of changes in environmental law or the costs of changes in regulation will generally be borne by the off-taker and/or the customers. Transparency in bidding is important and banks will have concerns about the use of funds (and of course the absence of corruption).

Renegotiations of concession documents will sap the credibility of the bid process over time. In reality, renegotiation is often necessary because of the paucity of information available to the bidders before the tender. In this situation, the scope of work or investment required can often evolve during the concession.

The process

The intensive, time-consuming nature of project financing leads to large economies of scale. Indeed scale is a major impediment to private sector lending to the sector. Although there may be many small water projects, banks will typically want to see projects exceeding $50 to 100 million as a financed cost, for this reason.

With private-sector finance, tenor (length of loan) is the clearest demonstration of lender appetite. As a general rule, long tenors are required because water projects are usually for the creation of long-term infrastructure assets. Given the local content in many cases, water projects should aim at maximum local financing.

Expanding the market

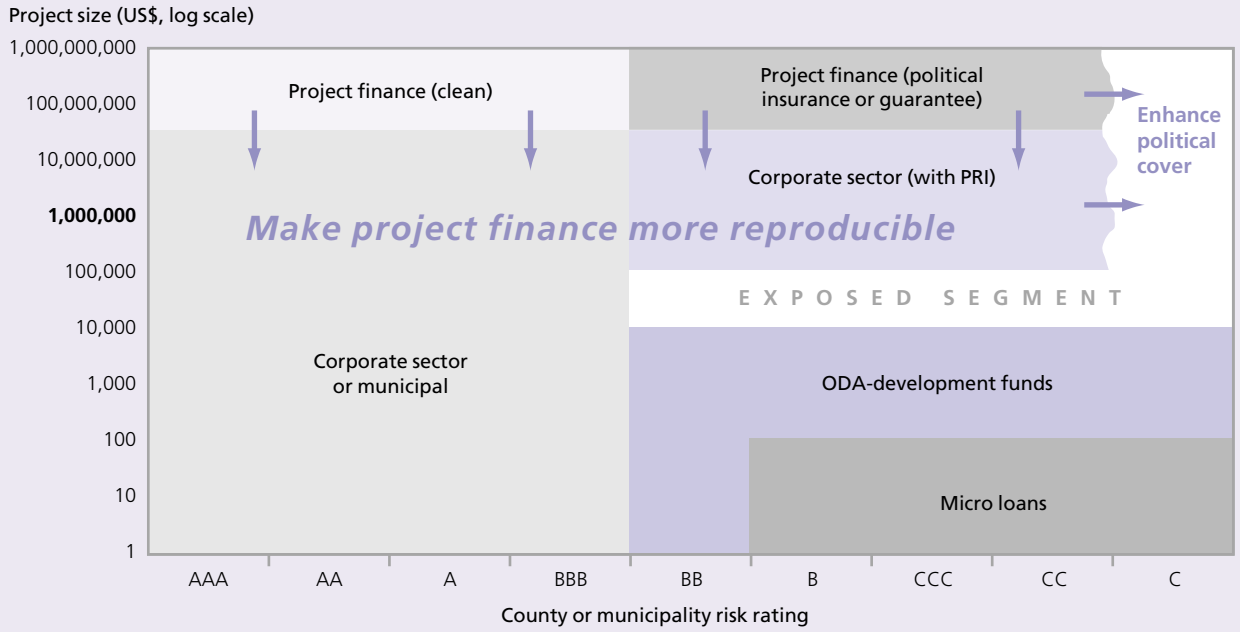
Figure 3.1 in chapter 3 provided a schematic depiction of the segmentation of the market for international water projects. Figure 4.1[49] here provides a conceptual approach to extending the market for project financing in the water sector:

- *Make project financing more reproducible.* This will depend on a market for water projects developing together with track record and 'market precedent'. This will help to lower the minimum size of the project financing by reducing complexity and simplifying documentation. Lowering the minimum threshold for these projects means that more of them can be financed by this technique.

- *Enhance the political cover of projects.* Through changes in export credit agencies and MFI political risk cover to make it easier to do projects in tougher locations. Extending political risk cover enhances the creditworthiness of countries and municipalities previously considered poor risks.

These two initiatives will shrink the Exposed Sector, which contains projects previously unable to attract project finance.

Figure 4-1 Water projects—expanding the market



It must be stressed that the base assumption to this approach is that the projects to be financed are inherently sound and viable. In practice, many projects may not be economic without a subsidy of some kind. But this of itself does not make projects unbankable, if the subsidy is sustainable and allows the debt to be repaid and the sponsor investment to be recouped.

Furthermore expanding the market for project finance (increased non-recourse finance) will directionally release funds for corporate purposes, thus increasing the total amount of money for water investment.

To summarise the methods for expanding the market for water project finance (several have been proposed earlier), the Panel proposes:

- Banks should focus initially on closing suitable transactions, pick the low hanging fruit and start to develop a track record and create a market precedent.
- As the market for water projects develops, banks should attempt to standardise documentation and simplify the financial and commercial process. If projects are easier to close, requiring less time and effort, such fixed costs as legal, financial and other due diligence charges will come down allowing smaller projects to become feasible for project finance
- Governments, MFIs and banks should encourage the development of local capital markets in which projects can obtain part or all of their funding to enable better currency matching of revenues with borrowings.
- MFIs and expert credit agencies should enhance and extend political risk coverage for projects, including the use of MFI guarantees and the relaxation in ECA rules on guarantees and insurance.
- Banks and other interested parties should develop and employ innovative financing techniques such as:
  - Securitisation or collateralisation of loan/debt obligations (the combination of a number of individual project loans into packages, which are then taken up by other lenders).
  - A Devaluation Liquidity Backstop Facility (see below).

A Devaluation Liquidity Backstopping Facility

The panel identified foreign exchange risk, and the difficulty of mitigating it, as a major disincentive to private sector investment and obtaining commercial finance.

- The panel proposes a new Devaluation Liquidity Backstopping Facility as one method of mitigating the risk of foreign exchange fluctuations in water projects at the sub-sovereign level.

Water service providers, or projects in the public or private sectors, would have a new facility available to enable them to continue to meet foreign currency obligations (such as debt servicing) that suddenly become more onerous following a large devaluation. The facility would be provided by an international agency with an excellent credit rating (one or more of the MFIs would be natural candidates). It would pay to the foreign lenders the part of the debt (and possibly equity) service which exceeds the reimbursement capacity of the project. The amounts paid by the facility would create long-term loans to the national government (or to the local government with a guarantee by the central government). Its loans would in turn be guaranteed or repaid by the host government, which would recoup the proceeds from a specific surcharge on water tariffs over a time period that is politically and socially feasible. This approach, according to our scenario, would generate sufficient revenue over the long term to repay the loan.

The Facility would apply in the following cases:

- In projects, operated by either the private or public sectors, which provide essential basic services such as water, power, transport, telecommunications, etc
- Where the project operator is subject to targets and regulation set by government, such as on tariff levels, investment spending
- Where the WSP has no means of mitigating local currency devaluation through escalation of the tariff and the project partners such as the local government or water authority have no way of preventing it.

Where bidders are invited to a competitive tender, the Facility should for the sake of equity be available to all.

BIS/Basel New Capital Accord

The Basel Committee on Banking Supervision, part of the Bank for International Settlements (BIS), in January 2001 caused disquiet by releasing the initial proposal on the Basel New Capital Accord, "Basel II". The comments on the treatment of project finance loans caused particular concern to practitioners. Although there was nothing specific in the Basel II proposals, the implication was that commercial banks' project finance loans were going to receive new and considerably more severe capital allocation treatment under Basel II.

The Basel Committee had been taking a view that project finance risks were higher than for general commercial lending. This perception ignored the considerably higher level of structuring in project finance loans. Indeed, analysis shows loan delinquencies and loss norms to be lower for project finance than for general corporate business.

The Basel Committee received many comments and submissions from industry on its January 2001 proposals. After a review during most of 2002 the Basel Committee has simplified its proposals as they relate to project finance and other specialised loans. Under Basel II, the onus will be on banks to assess their capital adequacy relative to their residual risks using an internal ratings-based approach. The upshot is that many banks will now be able to treat these forms of lending identical to other corporate exposures.

The Basel Committee initiated a Quantitative Impact Survey in October 2002[50] to allow banks to evaluate the impact of Basel II come back with their views. Thereafter the Basel Committee will finalise its New Capital Accord in the fourth quarter of 2003 with a view to implementation by the end of 2006. The current perception among project finance practitioners is that the Basel process is probably not as threatening as it was at the end of 2001, but that its impact remains to be analysed and a potential threat remains. Clearly, if the capital requirements for project finance become more demanding than at present, that would have a serious impact on the current shallow market for project finance and reduce the supply of funds.

Export credit agencies

At the Johannesburg World Summit in 2002 export credit agencies accepted their role in sustainable development in the following terms:

> *"Building on achievements in export credit disciplines (e.g. interest rates, tied aid and risk premium fees) and conscious of new challenges, inter alia in the context of WTO developments, ECA Members and the Participants continue to seek, in the forums of the OECD, to eliminate trade distortions and to work toward a level playing field on which exporters can compete fairly. This will continue to be complemented by the more qualitative elements of governments' activity in the field of export credits (e.g. environment) in the wider context of good governance and sustainable development (from the text for the Implementation Plan)."*

At that Summit, water and renewable energy were identified as the two priority areas of development for export credit agencies to play a role.

The OECD's Export Credits Group (ECG), started in the early 1970s and came into its own in the late 1970s with the cre-

ation of the Arrangement on Export Credits, the first step in a 20-year campaign that has largely eliminated explicit subsidies from official export credits. Key steps were putting interest rates at market levels in the early 1980s, setting limits to the use of tied aid in the early 1990s and coordinating risk premia in the late 1990s. Since the completion of work on premia in the late 1990s, the ECG has turned its attention to the more "qualitative" aspects of official export credit (such as bribery, unproductive expenditure and the environment), trying to use export credits as leverage to attain broader social goals. Success in these areas is still to materialise.

Governmental attitudes to the link between export credits and social goals varies widely and leaves little chance of finding true consensus at anything but the lowest common denominator. Although the ECG has produced an agreement on bribery, an understanding on unproductive expenditure and "common approaches" on the environment, none of these documents is binding or makes much progress towards achieving the social goals.

The ECG is considering how it can reconcile its functions with the expanding role of the World Trade Organisation (WTO). At issue is whether the OECD or the WTO will become the ruling body for official export credits. Meanwhile there is growing use of "market windows"; and more resort to untied aid and funding options outside the limits of the OECD Arrangement.

Another development is advocacy by various organisations, especially NGOs, that a specific share of export credit agency activity should be earmarked for renewable projects (for instance, at Johannesburg a figure of 10% of energy projects was suggested). Although this idea was not formally adopted in Johannesburg, it continues to receive serious consideration in several capitals. In this connection, the United States has targeted water for Ex-Im Bank and OPIC activity, indicating the need to double resources on water over the next five years. Ex-Im Bank only covered $42 million of water projects in fiscal 2000, less than 1% of its annual budget. An OPIC-supported equity fund committed approximately $42 million in water-related projects. For a variety of reasons—including the lack of creditworthy projects none of these mechanisms has been used to its full potential.

In recent years, the export credit agencies of OECD countries have collectively provided about $70 billion annually of long-term credit for developing countries (both public and private sectors) for purchasing goods and services in OECD members. Probably less than 1% of this amount has been for water and renewable energy projects. In such a context the panel recommends that all OECD countries and their export credit agencies emulate the U.S. target of doubling water activity over the next five years.

Local costs

As part of the general effort to update the OECD Arrangement and bring its processes into line with WTO principles, the Norwegian government has proposed the elimination of any limit on official export credit agency support for local costs. The justification presented for this proposal is that limits on the capacity to finance local costs is one of the biggest constraints to many projects, especially for infrastructure, in developing countries. This proposal was not supported by other export credit agencies; most agencies operating with exposure limits are opposed to taking more exposure per dollar of exports. But since local costs are so important in water projects, this proposal could have a big impact.

The Panel has the following specific proposals for export credit agencies:

- The OECD could incorporate into the Arrangement a requirement that 2%/3% of aggregate export credit agencies credit be directed annually to water projects. This could provide incremental funding of an estimated $1.5 to $2.5 billion annually for water projects in the developing countries.

- The OECD should consider allowing 20-year repayment terms (the current limit is 10 years) for water. Although no incentives are currently available for any sector, the OECD could (as it did for project finance cases) act to give special term flexibility to any sector it wishes. Such flexibility would most likely be in the form of longer terms and greater freedom to shape the repayment profile to cash flows.

- The OECD should consider raising the credit ceiling for local costs for water projects from 15% (the current maximum) to 50% of the export value. This would provide a substantial increase in funding for local costs at a moment when there is only limited and costly funding available.

- Export credit agencies should consider offering guarantees and loans in local currency.

Private investment and operation

Private sector participation in its various forms is an option available to governments and water authorities in developing

this sector. In the light of the experience summarised in chapter 2, the panel takes a pragmatic view on this issue. It is clear that public utilities, responsible today for 97% of the population concerned, have to act decisively if the Millennium goals are to be met. This means reforming the way they operate, their financial management, the way they relate to their customers, the confidence they create in their financiers and investors, whether public or private. This is a huge endeavour, which has to succeed.

It is equally clear that in rural areas and in the poor suburbs of cities, nothing can be really achieved without the full cooperation with the local communities. In this, the role of service-oriented NGOs cannot be overestimated. Utilities must have their responsibilities clearly defined, split between the owner of the infrastructure (most often the municipality) and the utility itself. An authority must act as the regulator, with a clearly defined mandate and responsibility, and supervise the operator, public as well as private. The paramount responsibility of the public authority is to assign the goals, to explicitly state the tariff policies, to define required investment and to decide funding sources. Under these conditions there is room not only for public utilities but also for private operators to perform their trade, to use their skills and to point the way for better efficiency and better customer satisfaction.

Small local entrepreneurs

Discussions of the private sector in water often take for granted that the issue is the involvement of large multinational companies, which at present serve around 3% of the developing world's population. There is another private sector, locally based, including both large and small operators. Some of the major concessions are joint ventures between international companies and local firms. Local private firms are often involved in construction and subcontracting. Smaller-scale local entrepreneurs are pervasive in large, low-income cities, providing services to complement, and compensate for, coverage by public utilities. It is also true that in many developing countries the expansion of private enterprise is cramped by official policies and that this important source of growth is not working to its full potential.

Research in Africa, Latin America and Asia shows that people without access to a connection are concentrated in low-income areas and that a large number of them rely on alternative forms of services delivered by small-scale private water providers. The proportion of the population covered in this way varies from 6% in Delhi, 10% in Dhaka, 19% in Ho Chi Minh City, and 44% in Jakarta.[51]

There are many different forms of this small-scale private involvement, and no single policy response would be appropriate. The private sector has often thrived because of the failings of the public authorities: a reformed and more responsive public sector could mean a smaller market share for private providers, though not necessarily a smaller role in absolute terms. In fact, local private providers have advantages, such as closeness to consumers, flexibility, use of local materials and technology and better adaptation to customer requirements. They are not necessarily saints either, since there are many cases of monopoly and extortion, and water quality is often worse than in the public supplies. The first step in engaging them is to recognize and then to understand their potential role and the constraints affecting them—followed by their gradual access to financial markets, within a properly defined regulatory framework.

- Governments and water authorities should recognise the present and potential role of small-scale private water providers and other parts of the local private sector, provide a legal framework which can encourage greater long-term investments by them, including their role in private concessions and the decentralisation of services.

- Governments should include small-scale private water providers in their national water supply strategies and service development plans, including incentives for them to improve their services.

- Small-scale private water providers should be encouraged to improve their access to finance to increase their capacity to invest in the sector and reduce their cost of capital.

Private international companies

Compared with 10 years ago, there are now fewer serious and credible private international companies willing to invest in emerging and developing markets. Several flagship water concessions have suffered from devaluations in the host countries, which made debt servicing more difficult. In any case, apart from their own equity, companies tend to finance their projects by drawing on the same capital markets as others, though they often induce complementary financing that would not otherwise happen. Also, tax regimes often favour public financing. These and other reasons limit the contribution by private operators in strictly financial terms, though there is potential for an increase if current hurdles are removed.

The panel believes , however, that experienced private companies can bring great potential benefits to the reform of water agencies—by transferring its skills and experience, its use of market disciplines and its access to finance. The private sector brings skills and experience useful in reforming water agencies and improving their financial sustainability. It can be

effective in extending services to the poor, where contracted to do so. It can add credibility to a project, which opens the door to more finance on better terms. The prospect of private involvement, even where it does not come about, may galvanise public agencies into carrying out reforms. But where private participation is applied, it is important for credibility and public acceptance to make the bidding and contractual processes transparent and fair.

Even if it is clear that one cannot expect a significant private role in the rural sector or for very scattered communities, it is equally obvious that in a world of very rapid urbanisation, their role, for all the above reasons, can be decisive. Many are of the view, that their role will be critical for reaching the Millennium targets, because a significant proportion of the population growth in the next 20 years will take place in areas of high population density, where their managerial and technological assets will be in high demand.

- The prospect of private sector participation in its various forms can be a powerful spur to the reform of public water agencies. In situations where reforms are being considered or tenders of various kinds are being drawn up, private participation should be included as an option, to be decided on specific grounds of efficiency, cost and effectiveness. Procurement decisions as a rule should be made on the basis of open and transparent competition, typically through bidding.

Where governments decide that the private option has advantages, it should be facilitated by the better allocation and mitigation of risk. In view of the potentially vital contribution of private involvement, the panel proposes measures to address four specific problems that currently discourage private participation in water. These proposals are addressed partly to private companies, and partly to governments and the international financial community, which will each have a part in implementing the solutions.

First, aid donors are inhibited from backing private participation directly because of a desire to avoid subsidising profits. The panel understands this concern, but believes that aid funds can be combined with private funding in ways that meet these concerns.

- The panel believes that water projects can be financed by combining public funds with private financing in transparent and acceptable ways. Public money can be used to stimulate projects for benefiting the general population without granting undue benefits to private parties.

- ODA should be available to facilitate water projects managed by private operators under public control—for example output-based aid could be used to expand networks or fund revenue shortfalls on a diminishing basis under a concession. Alternatively, aid could be used to finance investment in assets owned by the public and operated by the private sector.

Second, investors and lenders are discouraged by foreign exchange risk, which is virtually impossible to insure against commercially. In concessions, companies may take over existing foreign debt, take on new foreign loans, and need to remit dividends. All these become more expensive following a devaluation. Various methods of mitigating this risk have been tried, involving reserves to meet the devaluation contingency[52] or national schemes for guaranteeing the future foreign exchange rate.[53] But they tend to be time-consuming to arrange, and are limited in scale.

The contracts that water service providers operate under usually include a clause allowing tariff increases to cover defined categories of cost. Devaluation above a certain threshold level may well be included as an eligible cost increase, and moderate devaluations could be compensated over time by such a formula. The real problem comes with a massive devaluation, which would trigger a tariff increase of such proportions that it is totally unrealistic to expect it to be implemented.

Several of the largest private concessions (Buenos Aires, Manila, Jakarta) in the last 10 years have been affected by major devaluations, which have greatly increased the local currency requirements for servicing foreign debt, and caused liquidity crises for the providers. The outcome is usually some renegotiation of their contractual commitments plus tariff increases, but in all cases there is disruption to their operations and investment programmes.

- The devaluation liquidity backstopping facility proposed in earlier addresses the devaluation risk for public and private sector promoters and operators taking on foreign currency commitments.

Third, the heavy fixed costs of preparing tenders and contracts for private participation restricts the pipeline of such projects and raises the minimum size of contract that is worthwhile.

- The Revolving Funds proposed earlier are addressed to the problem of the large fixed costs of preparing private participation contracts and tenders.

Fourth, some of the specific risks in the water sector, such as unpredictable government behaviour, are so damaging that they prevent many projects from maturing. When hiring private operators, governments should recognise that a long-

term partnership can succeed only if the public body fully plays its role and complies with its commitments. This type of risk can be mitigated by the public partner providing securities and/or by insurance and guarantee instruments offered by MFIs and other agencies. For instance, MIGA offers cover against breach of contract in concession agreements, transfer restrictions, political instability and violence, though this applies only to cross-border investors. The World Bank's Partial Risk Guarantees cover lenders in the case of a default on contractual obligations to a project company.

The difficulty here results not from the absence of appropriate coverage schemes for these risks, but from the fact that the responsible bodies frequently adopt a very restrictive interpretation of their mandates and instruments. This is no longer acceptable in the present circumstances. The Panel recommends that these bodies review their internal regulations and procedures, with the object of providing significantly increased coverage of the risks confronted in the water sector.

- Guarantee and insurance schemes offered by MFIs, governments and export credit agencies should be expanded in scope and internal constraints on their use should be relaxed. The specific needs of the water sector should be better covered.

- Governments taking up private sector participation should provide adequate securities to create trust in the sustainability of long-term contracts

Community initiatives and service-oriented NGOs

Civil society groups within the water and sanitation sector perform several roles:

- Service providers—helping to build user-managed schemes.

- Advocates for the poor.

- Participants in open planning processes to ensure that poor people's needs are at the top of development agenda.

- Watchdogs, scrutinising the investment decisions of governments and donors and raising alarms on any negative impact of these decisions.

Locally based groups are in a strong position to insist on, and influence, the choice of their communities for the technology and level of service to be supplied. To the extent they are successful, the resulting schemes are more cost-effective and client-centred than they would otherwise be, and thus more sustainable.

- Civil society roles in water provision need to be supported, and their capacity to perform more effectively needs enhancing. Building the capacity of different local and national civil society stakeholders to perform independent watchdog roles is also important in addressing the blight of corruption.

Across the world individual households, including poor ones, make substantial investments to improve their water supply and sanitation. Financial instruments from domestic private sources such as loans, and from the public sector in the form of subsidies for the poorest, must be developed to further facilitate these investments. At the same time, micro-credit initiatives need to be encouraged to provide low-cost finance to households for water supply and sanitation improvements. Governments are in a position to leverage these kinds of resources, as the experience of India's Total Rural Sanitation Programme shows.[54]

- Micro-credit schemes, important in financing community water projects, should be supported by donors, MFIs and external NGOs through the provision of seed capital, initial reserves and guarantees. Continuing subsidies should, however, be avoided as they tend to damage the sustainability of such schemes.

External NGOs are important channels for funds for local initiatives, through the donations they raise and through attracting matching government contributions. A promising avenue is to explore the scope for inviting water consumers in industrialised countries to add, on a voluntary basis, a modest amount to the payment of their bills, on the understanding that the proceeds would be allocated to decentralised bodies in developing countries for financing well-chosen and exemplary projects.

- External ("northern") NGOs should propose ways of raising more funds for channeling to their local partners through various solidarity mechanisms.

Among local communities there is usually a great demand for better water services and a willingness to commit local resources to their implementation. What is often lacking is capacity—organising, financial, technical. The panel is attracted to the idea of creating a fund in each of the regional development banks that could be drawn on by local groups—NGOs, associations, community representatives—to build capacity through training, hiring advice, creating partnerships and attracting funding. Funding could come from a spectrum of organisations, but with a minimum amount of intermedi-

ation. A local supervisory committee would be appointed to be accountable for the use of funds and to vouch for the quality of the product.

- The panel proposes that a full study be conducted of the feasibility of creating Decentralised Funds for the Development of Local Initiatives.

Implementing the proposals: a three-phase strategy

In this report the panel has laid out a strategy and the main lines of a program for increasing the flow of funds into the global water sector. Many of the proposals will need further study and elaboration by the parties involved. The Kyoto Forum is an ideal opportunity for the various parties identified in this report to endorse and to start work on their respective proposals. Subsequent high-level meetings in 2003 will be occasions for keeping up and developing momentum. Aware that the time is fortuitous for implementing the proposals in this report, the panel urges all parties involved to maximize the synergies to be exploited.

In view of the lack of basic data and the magnitude of the administrative, financial and even cultural changes implied by the implementation of the Millennium Development Goals for water, the Panel was not in a position to define a fully fledged and comprehensive global financial strategy. Its proposals nevertheless constitute the basic foundations of a strategy that could unfold in three stages. It should be recalled that 2025 has always been the panel's implicit target, with 2015 as the key interim stop.

Launched in 2003—the International Year of Water—the strategy would go through an initial stage ending in 2006 on the occasion of the 4th World Water Forum. This meeting would provide an opportunity to review the measures endorsed at Kyoto, the G8 meeting at Evian in June 2003 and at subsequent gatherings—and the actions to implement them. By 2006 most of the necessary measures proposed in this report should have been taken, or should be on the way to yielding results. 2006 would also be a good vantage point for making any necessary corrections of trajectory for targeting the key 2015 MDGs. By that time, if the recommended strategy has made a good start, the relevant authorities will be in a better position to assess and adopt other measures, the need for which could not be foreseen earlier. The period 2003–06 would constitute the first phase.

The period 2006–15 would be the crucial second phase, containing the main push towards fulfilling the MDGs.

The third phase would be the period 2015–25, when the world community could realise the vision of universal water and sanitation, and the broader aim of water security, if the same intense effort and focus were maintained,

- 2006 should be the first checkpoint on the route to 2015. This would be an opportunity to review the measures endorsed at Kyoto and at subsequent gatherings, and actions taken to implement these.

- 2015 should be the next essential check-point, opening the third stage of a strategy leading to universal access and sanitation by 2025.

For this three-phase strategy to be maintained, made more comprehensive and adapted to changing circumstances, a major gap in the global institutional system would have to be filled. No single international organization has a clear and undisputed role for monitoring water. A number of international bodies, including the panels's sponsors, fulfil valuable functions in this respect. But none has the key mandate of being a global "control tower" systematically collecting, evaluating and publishing data on the performance of the various parties. Reluctant as it is to increase the number of international organisations, the panel thinks that a "global control tower" with the abovementioned function would be indispensable. It could be formed from the resources of existing units, reformed, coordinated and supplemented, as necessary, or it could be a new body. In either case, a limited number of permanent staff would be required to help countries gather the required data and track global progress. The "control tower" would produce an annual report and its activities would be conducted in full public transparency.

To complement the work of the "control tower" ensure the right conclusions are drawn from its work, and that any necessary action is taken, we recommend that a permanent group containing independent "wise persons" of acknowledged calibre and standing be formed with the task of evaluating ongoing developments, appraising the information collected by the "control tower" and making any suggestions judged appropriate to achieve the water MDGs

Progress towards achieving the MDGs should be systematically monitored by a global "control tower" consisting of a reporting network and an independent committee of "wise persons". Existing systems for collecting and reporting data on global water should be reformed, strengthened and coordinated, as appropriate. Information should be produced on progress towards the MDG water targets and on the performance of the many parties implementing and funding this effort. The data would be evaluated by a group of "wise persons" who would make recommendations on the steps to be taken to secure the water MDGs.

5 Conclusions: Priorities, actions and impacts

Priorities

If chapter 4's proposals were all implemented quickly, a critical mass would be created to make a big impact on the financial resources available to water. But the proposals differ in the ease of their implementation, and in the speed of their impact.

Meanwhile, the clock is ticking towards 2015, not to mention 2025. This chapter suggests some priorities for the international community, recognising that some early progress needs to be made in reducing service deficits, particularly amongst the poor in Africa. Success will breed success, and virtuous circles will be launched. At this point, it should be recalled that the panel's task is not only to address household water and sanitation deficits, but also to propose financial measures for global water in its broader sense. The urgency of meeting the MDGs for 2015 should not overshadow the importance of funding the other needs of the wider water sector over a longer time horizon.

- The first priority is for host governments to be clear on their strategies and priorities for the water sector—and to plan accordingly.

Donors, NGOs, MFIs, companies and others can assist, but there has to be real political "ownership" of the effort from host governments as a precondition.

Examples
Preparation of water sector strategies
Detailed action programmes for meeting MDGs
Inclusion of waterpolicies in PRSPs

- Second, facilities that already exist should be used as financial vehicles, replenished and empowered as necessary.

Unnecessary constraints on their operations should be removed. Organisations with viable plans and projects, but a shortage of finance, should be targeted.

Examples
Donors to refocus aid for water and coordinate through the DAC and others
Donors to give priority to strengthening core public capabilities
MFIs to reconsider attitude to capital provisioning
Greater use of guarantees
Export credit rules modified
MFIs and donors to resume qualified lending for water storage
NGOs with good project pipeline to be targeted for assistance
Private companies (local and international) to be used as contractors and managers

- Third, proposals for new agencies, funds and schemes should urgently be studied for their detailed feasibility, and their implementation mapped out, with sponsors identified.

Examples
Decentralised Fund for Local Initiatives
Revolving Fund for tender preparation and contract award
Devaluation Liquidity Backstopping Facility

- Fourth, policy changes and reforms to institutions likely to have longer lead times should be set in motion.

Examples
Tariff reform
Reforms to public water agencies
Measures to strengthen financial powers of sub-sovereigns

Actions required from main parties

The measures proposed in this report call for actions by seven main categories of actors: central governments from both developed and developing countries, sub-sovereign bodies, community organisations and NGOs, banks and private investors, aid donors, Multinational Finance Institutions, and members of the UN system and other international organisations.

Central governments in developing countries need to prepare water strategies and action programmes for 2015 and to inscribe water policies in PRSPs. They need to start reforms for public water institutions, drawing on various models for cooperation. They need to work out the financial relationship between central governments and sub-sovereign entities and to propose measures to expand and deepen local capital markets, including use of pension funds.

Central governments of developed countries have responsibilities to ensure that the international institutions and agreements that have governed the world economy over the last few generations are well adapted for the challenges of the new Millennium—and if not, how they should be reformed. This applies particularly to aid, the governance of MFIs, and the consensus over international finance and export credit.

Sub-sovereign national bodies, such as local governments and water authorities, are the fulcrums of reform and action in the water sector. They have the responsibilities, but not all of them have the necessary skills, efficiency and financial powers. Theirs is a huge and challenging agenda of actions.

Community organisations, supported by service-oriented NGOs, are the first line of attack on the water sector at the grass-roots. They should aim for a more ambitious role in influencing and monitoring the performance of the institutions that supply water services. They should explore ways of raising more external funds through their NGO partners and become involved in local finance through micro-credit and other multi-partner schemes.

Banks and private investors should be looking for ways to increase their involvement in the water sector, following several years of decline. Exploring innovative financing techniques adapted to the specific needs of the sector is part of the answer. But there is much scope for the greater uptake of what is available, such as guarantees and insurance. Contracts and documentation could be streamlined. The proposed facility to inject liquidity after devaluations should be of interest.

Aid donors need to stand by their commitments to increase aid for water, which should immediately be doubled as a first step. Donors should focus unremittingly on helping achieve the water MDGs, and later the wider goals of global water security. ODA will need refocusing among countries and within the sector itself, and should support the strengthening of core public capabilities. It should favour countries with sound water programmes and reward early progress. Aid should increasingly be seen and used to catalyse other kinds of finance. Donors should take the lead in developing the new instruments proposed here, such as the Decentralised Fund, the Devaluation Facility and the Revolving Fund.

Multinational Finance Institutions (MFIs) will be the pillars of the new water financial architecture. They should do everything to reverse the recent decline in their water lending and make every effort to expand their use of guarantees and insurance. They should overcome their reluctance to lend for water storage schemes.

UN agencies and other international organisations need to develop new forms of relevant cooperation to support the reform effort in the water institutions of developing countries. The OECD and its DAC have a clear role in mobilising, coordinating and monitoring the water aid effort. The OECD should look hard at the impact of its export credit consensus and whether it can be changed to favour the water sector. The Basel Committee should review the impact of its recommendations on lending to infrastructure in emerging markets.

Impacts on the main sub-sectors

The panel's intention has been to balance the needs of different water sub-sectors. Not easy. Inevitably, because of the prominence given to reducing the service deficits of the poor in the MDGs and Earth Summit, the needs of poor households have absorbed much of the panel's time. Each sub-sector requires its own distinctive approach, and many solutions are sector-specific. In particular, the financing of irrigation is a complicated and stubborn problem. With these reservations, the panel believes that its proposals would have financial benefits for each of the main branches of the water sector, summarised below.

Urban household water and sanitation

Poor urban households would benefit directly or indirectly from many of the proposals: increased and more closely targeted aid; the involvement of NGOs and companies in project design and service delivery; reforms and financial

strengthening of sub-sovereign entities and water authorities; the mobilisation of local savings and development of local capital markets; and others.

Rural and village water

Aid would become more targeted on regions and social groups most in need of public subsidy. Donors would specifically be urged to support special rural water programmes being mounted by regional bodies. NGOs would be strengthened in their capacity to assist local community projects. Financial strengthening of urban water authorities would increase resources available for cross-subsidising smaller and financially weaker communities.

Wastewater collection and treatment

Wastewater services, normally more costly per unit than providing freshwater, account for a high proportion of the extra $100 billion required annually. Many urban systems have no proper wastewater treatment plants, so it is becoming common to add to systems through private BOT projects.[55] In this context, proposals for tariff reform are especially relevant, since tariffs would need to rise considerably to meet the cost of wastewater services, whether provided in-house by the public utility or on a "take or pay" basis by a private company. The panel's proposals on tender and contract terms, the revolving fund and the development of insurance and guarantees are also highly relevant to attracting private finance into wastewater.

Irrigation

The reengagement of MFIs and donors with dams and other major hydraulic works would improve water and food security for many farmers, especially in Africa. Public irrigation agencies are one type of sub-sovereign entity that could benefit from more financial autonomy, though major reforms are going to be needed to improve their creditworthiness. In selected schemes where conditions are favourable, private concessions are feasible (and are being invited). These would benefit from the extended use of insurance and guarantee instruments, and from the proposed liquidity facility. Small-scale farmer-financed schemes would benefit from the proposals to develop local capital markets, micro-credit and development finance institutions.

Hydropower

Most large hydro schemes are in the public sector and dependent on public investment, supplemented by foreign aid and international and national borrowing. A minority of projects, mainly small run-of-the-river schemes, are private investments. The proposal on dams would encourage more MFI and donor support. Commercial bank lending would benefit from the wider use of insurance and guarantee products, and from wider use of the MFIs' B-loan and Preferred Creditor Status products. Bond issues for hydro would also gain from more use of Partial Credit Guarantees, which would extend maturities and lower rates.

Industrial and commercial water and wastewater

There is no major financial problem involved in industrial water use, which is either taken from public mains or obtained from the company's own sources. In either case, the payment for water or the investment required is usually a minor part of company income and can be passed on to consumers. Financing the pre-treatment of effluents will, however, become an increasing charge on companies to meet tighter pollution control. The assumption of most pollution measures is that industry will meet the cost of treatment itself, from its normal financial sources, supplemented in many countries by recycling the proceeds of pollution levies and environmental taxes for approved investment in abatement. For companies and parastatals for which funding will be difficult, our proposals on local capital markets and development banks should be helpful.

Resource management and environmental protection

For various aspects of resource management and protection there is no serious alternative to funding through the public sector. The annual recurring cost of resource management usually falls on the budget of the local government(though there are examples of groundwater aquifers being managed privately, funded by users). New capital projects (afforestation, dams, flood control, pollution clean-ups) also fall largely to governments, with help from donors and MFIs. At the margin, the cost and funding of some multipurpose schemes can be shared with other parties, or neighbouring countries. The panel's proposal on water storage should help the re-entry of donor and MFI money to this sector. Proposals to focus aid and public subsidy on these public goods, among other priority uses, should work in the same direction.

Annex 1. The Devaluation Liquidity Backstopping Facility

Description

A new facility would prevent the disruption of water services due to the impact of a large devaluation, by rescheduling the service of foreign debt over a time period that is politically and socially feasible.

Justification

The facility would be of value to local authorities, which organize water services, set water tariffs, and request their water service provider (WSP) to undertake investment or to take over water-related foreign debt incurred by previous administrations.

It is impossible to insure commercially against devaluation, since the risk cannot be estimated with any precision, and political risk insurance does not normally cover this event.

Several of the largest water projects (e.g. Buenos Aires, Manila, Sao Paulo, Jakarta) undertaken by developing countries during the last 10 years have been affected by major devaluations, which have greatly increased the local currency requirements for servicing foreign debt previously borrowed by public or private bodies, and caused liquidity crises for the water authorities and providers. The outcome is usually a lengthy process of modification of the local water policy (investment programs, tariff increases, fiscal revenues) aiming at rebalancing the economics of the water service. In all cases, there is disruption of the debt service and investment programs.

Scope

The facility would apply in the following cases:

- Projects operated by either the private or public sectors,
- Projects where the WSP is subject to targets and regulation (e.g. over tariffs, investment spending) set by government,
- Projects where the WSP has no means of mitigating devaluation, and where the project partners (local authority, WSP) have no way of avoiding it.

Practical aspects and implementation

- *International guarantor:* The facility would actually be a contingent facility provided by an international public body (MFI or ECA) with an excellent financial standing, able to bear the financial onus from devaluation to the end of the revenue recovery period. The international body would effectively guarantee the foreign loans and finance the additional debt service incurred from devaluation. The guarantee would be counter-guaranteed by the national government, and guarantor disbursements would create sovereign debt. The national government would recoup reimbursements by levying an appropriate water surcharge, directly or through the local water authority. It would be possible to involve a third party to provide the loan, perhaps a local commercial or development bank. The international guarantor would then guarantee the payments of this third party.
- *Facility reimbursement:* The collection of the surcharge could be done by the usual billing entity. But the responsibility for repaying the amounts disbursed by the facility should be borne primarily by the government or the local authority, which has the power to set the tariffs.
- *Affordable exchange rate:* Based on macroeconomic forecasts (including inflation and exchange rates, usually based on purchasing power parity), the initial base case financial model (drafted when the foreign loan is contracted) predicts a specific debt service to revenues per-

centage every year. Assuming all operational considerations are unchanged, the same percentage of actual revenues is available during the life of the loan for debt service, whatever the actual macroeconomic parameters. This percentage translates into a nominal amount of local currency ("affordable debt service"), which, when divided by the payment due in foreign currency, gives what is designated as the "affordable exchange rate", for each year. After being adjusted for a deductible, this rate becomes the threshold above which the facility would intervene.

- The facility would include the following features:
  - The project pays annual premiums to the facility.
  - The project fully services the foreign debt as long as the actual exchange rate does not exceed the "affordable exchange rate".
  - Any positive post-devaluation impact on the part of WSP's revenue which was anticipated to service the foreign debt (e.g. tariff increases to compensate for local inflation) would reduce the amounts to be further funded by the facility.
  - A minimum level of devaluation is borne by the project. For example a deductible of 10% of the affordable exchange rate is set, below which no drawing on the facility would be made.
  - If agreed by the parties, the part of WSP's revenue which was anticipated to service the WSP equity (when invested in foreign currency) may well be partly protected by the facility in a similar way.

User impact

The potential impact of this facility has been tested on hypothetical projects facing a 50% (or 67%) devaluation. The initial devaluation occurs at the point where foreign debt service would have represented 17% of annual revenues without devaluation. Under the proposed facility scheme, tariffs would not need to rise immediately to adjust for devaluation. End-users would pay a surcharge that would gradually increase over five years to 2.3% (or 5%) of the tariff, with an annual increase of less than 1.4% (or 3.1%). The sovereign debt created would peak at 20% (or 40%) of protected debt in foreign currency terms. At all times, and assuming that other devaluation impacts are mitigated, the WSP would remain profitable and pay its corporate taxes to the government.

Annex 2. The African Development Bank proposal for a Rural Water Supply and Sanitation Initiative

Justification

Rural areas in Africa have the least coverage of safe drinking water supply and sanitary disposal of excreta. Currently about 400 million people in Africa (50% of total population) lack access to safe water supply and an even higher figure lack adequate sanitation. Nearly 330 million of this population live in rural areas. Consequently, rural populations are burdened to a greater extent by preventable water and sanitation-related diseases, suffer greater deprivation of women and children not attending school or engaging in economic activities due to time and effort needed to fetch water. These problems together combine to perpetuate poverty in the rural areas of Africa. In addition, there is very limited scope for private sector participation in rural areas; most of the investments required would have to come from governments, bilateral sources, multilateral agencies, NGOs and community efforts.

To provide access to safe drinking water supply and sanitation to the unserved, and accommodate the increase in population over the next two decades, the rate of increase in coverage over the next 20 years has to exceed 19 million rural inhabitants per year. There is therefore a need to accelerate the pace of development of the sector with specific focus on coverage while not ignoring sustainability and effectiveness, using fast-track mechanisms, and highly innovative, broad-based, participatory, inclusive and community-based approaches.

Goal and objectives

The goal of the Initiative is to accelerate access to sustainable water supply and sanitation to rural Africa within the framework of the Africa Water Vision. This would be achieved through the following strategic interventions:

- Develop and implement fast-track mechanisms for preparing and implementing of interventions to significantly accelerate the implementation of the national rural water supply and sanitation programmes.
- Implement projects, with the participation of beneficiaries, to extend and sustain rapid coverage of water supply and sanitation services to rural areas.
- Promote technologies that are appropriate, based on beneficiaries' consensus as to acceptable levels of services, ease of implementation, local skills and knowledge for their operation and maintenance.
- Mobilize higher levels of funding from official development assistance (ODA) and promote and support local initiatives for funding rural water supply and sanitation.

Targets

Targets for the Initiative and indicative costs are given below:

- 66% of the rural population with access to drinking water supply and sanitation by 2010 from the present 34%.
- 80% of the rural population with access to drinking water supply and sanitation by 2015.

The average annual investments in the first seven years (up to 2010) is $1.4 billion, and thereafter about $900 million a year. The targets are set as overall figures for the continent. The Initiative will in practice initially begin in five to seven countries with relatively well developed water sector policy and existing capacity to implement the Initiative and then proceed to other countries on the continent.

Approach

Fast-track mechanisms mean flexible, transparent, and fast-paced procedures for programme and project preparation, appraisal, and implementation as well as procurement, disbursements and financial management

The Initiative would promote a programme approach (as against single project) in identification, preparation, appraisal and implementation of interventions. Investments would be based on an agreed basic service level of water supply and sanitation, to be defined, on a country basis, taking into account hydrological and hydro-geological conditions, population densities and socio-economic conditions.

Financing structures for channeling funds to communities would include adaptations of Social Funds and AGETIP-type structures.

At the community level, implementation structures and facilities management would be based on existing institutions, local organizations, associations and women's groups. Capacity-building would be provided to enable the beneficiaries to plan, execute and manage the facilities.

Implementing the initiative

Implementation would be phased, starting with a group of countries that already have a strong policy framework and are prepared to give necessary political commitment. Country assessments would be carried out to form the basis of designing the phasing of implementation and timetable. Seven countries (Burkina Faso, Benin, Ethiopia, Ghana, Mozambique, Rwanda and Uganda) have been tentatively selected to pilot the implementation of the Initiative. The final decision will be made after further elaboration of the Initiative and acceptance by the concerned countries.

Collaboration with other initiatives

The Rural Water Supply and Sanitation Initiative would collaborate with the African Water Facility to source some funds as well as with other cooperating partners, such as USAID, CIDA, JICA and Netherlands government. The Initiative would collaborate with NEPAD in implementing policy reforms under the integrated water resource management policy of the Bank Group. In addition, the Initiative would use the framework of NEPAD and the African Ministers' Conference on Water to generate sustained political commitment from countries.

The African Water Facility

The African Development Bank coordinated a stakeholders Conference on Water Sustainable Development in Accra in April 2002, to identify and establish a consensus on the main priorities for water development in Africa, and to contribute to a process for mobilizing the necessary financial resources. The Conference recommended the establishment of an African Water Facility to help mobilise the financial support needed for meeting the urgent water needs. The Conference further recommended that the Facility be housed within the African Development Bank and that detailed studies be undertaken to determine the financial resources required, the possible sources of the fund and the operational modalities.

The objective of the Facility is to provide investment support for water resources management and water service provision programmes in Africa that are designed to remove bottlenecks and help leverage additional financial recourses from multilateral and bilateral sources as well as from public, private and community resources. This will be done by promoting innovative actions by both countries and donors; assisting in the creation of an enabling environment; and helping to build governance and management capacity within implementing institutions. The Facility would be defined under the broad framework of NEPAD, the African Water Vision and the priority areas identified at the Accra Water Conference.

An evolving Facility will require gradually increasing resources available for investments. It is expected that the Facility should seek to raise $300-to-500 million in the short to medium term to leverage funds to contribute toward the $20 billion needed annually to meet the continent's water targets for 2025. Initially, the Facility will focus on assisting countries gain access to existing sources as well as additional funds that would be made available to it. The areas of focus of the Facility are indicated below:

The Facility aims at supporting appropriate priority programs at the regional, sub-regional and national levels.

At the national level

- Integrated water resources management planning, projects and programmes
- Capacity building, especially in the context of program development, affordability and procurement

- Data collection, analysis, and dissemination
- Design and carrying out of policy and institutional reform
- Project and program preparation and implementation
- Consensus building
- Assistance with drafting and negotiating agreements
- Regulatory instruments and monitoring capacity
- Research, training and public awarness
- Environmental management planning, projects and programmes.

At the sub-regional and regional level, the Facility would provide support for the foregoing programmes as well as:

- Developing shared river basin visions and transboundary environmental groups
- Securing political support
- Supporting to river basin activities, regional and subregional groups
- Supporting the Monitoring Mechanism for the Implementation of the African Water Vision 2025
- Supporting the Regional Information Cleaning House and related information networks
- Encouraging multinational project and program preparation and implementation.

Annex 3. Full list of panel proposals

The various proposals made in the panel's report are summarised grouped together here.

Governments' water policies

- Each country should produce a national water policy and plan, including specific programmes to meet the Millennium targets and beyond. This would be detailed in an action programme embedded in the national document, which countries committed to produce at the Johannesburg Earth Summit, and would be part of an agreement for additional ODA for water. Countries should state the indicators by which their efforts should be judged.
- Each country should provide predictable revenue frameworks to its water service providers, either public or private.
- Each country should monitor and report annually its achievements towards the water MDGs.
- For the group of Highly Indebted Poor Countries, policies for water should be explicitly included in national Poverty Reduction Strategy Papers to give them higher priority in national budgets and capture some of the benefits of debt relief for local financing of this sector.
- Governments should create an enabling environment for the participation of the private sector in the delivery of infrastructure services.
- Governments should adopt policies for integrated water resources management.
- Governments should encourage municipalities of large and middle-size cities to start working on projects for water supply and sanitation in response to the pressure of urbanization.
- Governments should engage in active regional and international policies to address the problems of transboundary rivers and basins.

Local governments and water authorities at sub-sovereign level

- Governments should be encouraged to mobilise national and international training and help for their sub-sovereigns in relevant managerial and technical matters.
- Central governments should set national minimum standards for provision of water services by the responsible authorities.
- Governments, together with sub-sovereign bodies, should define what technical and financial assistance sub-sovereigns require to meet these standards.
- To optimise local investment capacity, local governments and water authorities should maximise their operating efficiency and report on their performance in meeting these standards.
- Close contacts, including partnership associations and twinning, should be promoted between sub-sovereigns, intra- country, intra-regionally and internationally to allow exchanges of experience and best practice (including preparation of toolkits and possibly standardised documentation).
- Contracts for private sector participation should be standardised and promoted, enabling sub-sovereigns to employ private companies under incentive-driven contracts to raise efficiency and performance.
- Central governments should provide incentives for good reporting by their sub-sovereigns—for example by relating some central transfers to the quality of reporting.

- National governments should create a central agency to collect, publish and compare sub-sovereigns' financial and management information (including benchmarking of key operating parameters), and generally improve the transparency of these operations. The agency should encourage civil society to monitor whether the services received by the community are consistent with the reports received. Donors should support such an agency, using public and private sector expertise in administrative, legal and financial areas.

- Governments should clearly define their fiscal relationship with sub-sovereigns.

- Governments should be encouraged to allow and facilitate limited intercepts into domestic fiscal transfers to give partial security to lenders to sub-sovereigns.

- Donors should be ready to provide technical assistance to sub-sovereigns for analysing and designing water projects.

- Donors should be ready to channel aid to sub-sovereigns requiring funding on concessional terms for water projects.

- A Revolving Fund should be created, using grants to finance the public preparation and structuring costs of complex projects such as private participation projects and other innovative structures.

- Sub-sovereign entities should consider the option of retaining assets in public ownership, with continuing public responsibility for investment finance, and with operations privately financed and managed.

Promoting local capital markets and savings

- Governments and central banks should put in place measures to promote local capital markets and address problems caused by their own actions in crowding out other borrowers. Larger countries should lift remaining barriers to the use of local funding, where they are redundant.

- Governments, with the help of MFIs and donors, should be asked to promote the rating of sub-sovereigns, to facilitate their financing but also to enable transparency and the tracking of behavior.

- Governments should consider taking steps to permit the development of domestic borrowing markets for sub-sovereigns.

- Governments should encourage and facilitate the entry of rating agencies and bond insurance and financial guarantee companies into their domestic capital markets.

- With appropriate reforms made in the light of lessons from previous experience, national development banks or specialised financial institutions should develop a role as intermediaries for channeling external and central government funds, and funds raised in local markets, to sub-sovereign bodies operating in the water sector.

- Governments should encourage the creation of credit pools for sub-sovereigns, with an option of joint and several liability.

- MFIs and other agencies should extend their use of guarantees and the issue of local currency bonds to promote local capital markets, extend the maturity of local loans, and encourage the use of local pension funds in the water sector. They should urgently address statutory and managerial obstacles to their further use of these instruments.

Sustainable cost recovery

- The panel proposes that the aim of water service providers should be sustainable cost recovery, which means that:
  - Service providers should aim for revenues sufficient to cover their recurrent costs, and they should develop sustainable long-term cost recovery policies, anticipating all future cash flow needs. SCR includes operating and financing costs as well as the cost of renewing existing infrastructure.
  - Revenues arising from charges should be covered by users as a group. Under SCR, not all users would pay the same price. Individual affordability of water charges should be ensured by appropriate tariff structures including local cross-subsidisation (for example, by setting a rising block tariff structure) or by individually targeted and transparent pro-poor policies.
  - The part of recurrent revenues provided by taxpayers from public budgets should be secured by agreeing well in advance the allocation of sufficient fiscal transfers.

- Where subsidies are used they should be targeted, transparent and (where intended to ease the transition to higher tariffs) tapering.

Increasing managerial capacity in water institutions

- Funding for capacity development in water institutions should be a high priority for the use of ODA and MFI funds.

- Donors should support cooperation and partnership agreements, preferably involving experienced and reputable public partners, as a means of strengthening core public capacities. These should state mutual responsibilities and contain performance targets and incentives applying to both parties.

- The panel recommends the concept of joint working on problems and learning while doing in public-public partnerships as well as in cooperation agreements between utilities and companies. Such cooperation could be within a country, or North-South or South-South.

- Donors should finance trust funds in the MFIs for using specialists with strong practical experience at the appropriate level to assist in the transfer of skills.

- In implementing the MDG targets, donors should support action planning, in which planning and project preparation are wrapped into aid projects.

- ODA should be provided for the work of regional professional associations in support of training, professional exchanges, and data collection and benchmarking.

- ODA technical cooperation should be used to help the preparation, structuring and implementation of private participation contracts, such as BOT and other concessions, management contracts, and leases, as a means of enhancing on-the-job capacity building.

Legal and regulatory environment, corruption and ethical practices

- Capacity development in the core public institutions of the water sector should aim to define and implement a water policy, set a regulatory framework and create a basis for commissioning and controlling executing work, whether performed by private or public agents.

- A study should be funded for the preparation of best practice and model clauses in the legal agreements for private participation, with particular reference to the water sector.

- Executing agencies should be made attractive for high-calibre leadership, accountable for performance and delivery. Integrity standards should be worked out cooperatively by all interested parties.

- The decentralised nature of water services is an opportunity for different mixes of public, private and self-help options, and for competition between them. The choice between them should be pragmatic, eschewing ideology.

- The high political profile of water should be used to create more transparency for its operations. Public opinion, user associations and NGOs should be encouraged to monitor and publicise the activities of water organisations and expose corrupt practices .

- Private and public companies engaged in the water sector are urged to cooperate with public clients and other parties to develop methods for promoting ethical behaviour. Private participation contracts should be fully transparent.

ODA

- Governments of developed countries should be held to account for their commitments to increase aid to the water sector. Overall ODA for water should be doubled, as a first step. Donors and MFIs should aim to make substantial increases in the share of water in their total commitments.

- Individual donors should contribute their share towards this target, depending on the size of their current aid to the water sector. This ODA increase should preferably be in the form of grants rather than concessional loans

- Donors should keep funds available for rewarding countries that make early progress on implementation of water programmes in fulfilment of the MDGs.

- Donor agencies should work, under the guidance of the OECD's Development Assistance Committee, UN agencies, and the Development Committee, to implement the

DAC's recommendations on increasing the effectiveness of aid and improve the coordination of their efforts in this sector.

- In view of the capital intensity nature of water investments, and the need for front loading ODA, means should be found for governments to create a special national or international facility to pre-finance disbursements budgeted for a later period.

- Rather than funding entire projects or programmes through grants, with the risk of smothering local initiatives and discouraging financial self-sufficiency, donors should regard their funds as catalysts to mobilise other flows and empower other players.

- The panel encourages the parties involved to enter 'debt for water' swaps as a means of increasing local currency funds available for water projects.

- The panel invites the DAC to consider amending its presentations of national ODA performance to reflect properly the status of guarantees.

- Geographically, ODA should favour those countries, especially in Africa, where the water service deficit is greatest and where most remains to be done to meet the water MDG targets.

- Within countries, grant ODA for water and sanitation should be directed to regions, settlements and social groups where public subsidy is necessary.

- Within the water sector, ODA should also be used for services that have to be financed publicly because it is not feasible to provide them privately, such as water resource management, large water storage schemes, flood control and major irrigation and drainage projects.

- Bilateral ODA should be applied in support of various current important multilateral initiatives, such as the African Water Initiative, AfDB's Rural Water Supply and Sanitation Initiative and the FAO's Special Programme of Food Security, among others.

- Aid should be used to catalyse other financial flows by such means as funding initial overhead costs, providing equity for revolving funds, guarantees, and subsidies targeted to performance (such as output-based aid).

- Donors should report annually about the impact of their aid on achieving water MDGs by publishing :
  - The number of people they have helped to get access to water and sanitation
  - The average "aid efficiency" of their water projects: that is, the foregoing number of people divided by the grant value of their aid.
  - The "leverage effect" of their aid, namely, the total amount of financing mobilised on water projects they have aided.

Multinational financial institutions (MFIs)

- MFIs that do not now lend to sub-sovereign entities should reconsider their policies, with the aim of permitting such lending in appropriate cases, subject to normal prudential criteria.

- MFIs should revise their policies on capital provisioning, where these are undue constraints on the use of guarantees.

- MFIs subject to the participation requirement should consider amending their articles to enable them to have the freedom to issue guarantees on a standalone basis.

- MFIs and donors should resume lending to essential surface and underground water storage projects, subject to adequate social and environmental safeguards.

- New instruments and funds to be created should preferably be located in, and coordinated by, the regional development banks.

International commercial lending

- Banks should focus initially on concluding suitable transactions, picking the low hanging fruit, and starting to develop a track record and creating a market precedent.

- As the market for water projects develops, banks should attempt to standardise documentation and simplify the financial and commercial process. They should encourage the development of local capital markets in which projects can obtain part or all of their funding to enable better currency matching of revenues with borrowings.

- MFIs and ECAs should enhance and extend political risk coverage for projects, including the use of MFI guaran-

tees and relaxation in ECA rules on guarantees and insurance.

- Banks and other lenders should develop and employ innovative financing techniques such as securitisation or collateralisation of loan-debt obligations (that is, combining a number of individual project loans into packages, taken up by other lenders).

- A new Devaluation Liquidity Backstopping Facility is proposed as one method of mitigating the risk of foreign exchange fluctuations in water projects at the sub-sovereign level.

Export credit agencies (ECAs)

- The OECD should consider incorporating into the Arrangement a requirement that 2–3% of aggregate ECA credit be directed annually to water projects.

- The OECD should consider allowing 20-year repayment terms (the current limit is 10 years) for water, and give special term flexibility for this sector and allow more freedom to shape the repayment profile to cash flows.

- The OECD should consider raising the limit on credit for local costs for water projects from 15% (the current maximum) to 50% of the export value.

- ECAs should consider offering guarantees and loans in local currency

Private investment and operation

- Governments and water authorities should recognise the present and potential role of small-scale water service providers (SSWSPs) and other parts of the local private sector, and provide a legal framework to encourage greater long-term investments by them.

- Governments should include SSWSPs in their national water supply strategies and service development plans, including incentives for them to improve their services.

- SSWSPs should be encouraged to improve their access to finance to increase their capacity to invest in the sector and reduce their cost of capital.

- Where public authorities are considering reforms of the water sector, or tenders of various kinds are being drawn up, private participation should be included as an option, to be decided on specific grounds of efficiency, cost and effectiveness. Procurement decisions should as a rule be made on the basis of open and transparent competition, typically through bidding.

- Donors and governments should be open to financing water projects by combining public funds with private financing in transparent and acceptable ways.

- ODA should be available to facilitate water projects managed by private operators under public control—for example output-based aid could be used to expand networks or fund revenue shortfalls on a diminishing basis under a concession. ODA could also be used to finance investment in assets owned by the public and operated by the private sector.

- Guarantee and insurance schemes offered by MFIs, governments and export credit agencies should be expanded in scope, and the internal constraints on their use should be relaxed. The specific needs of potential private operators in the water sector should be kept in view.

- Governments taking up private participation should provide adequate securities to create trust in the sustainability of long-term contracts.

Community initiatives and service-oriented NGOs

- The roles of civil society groups as service providers, advocates, participants in planning processes and watchdogs need to be supported, and their capacity to perform them more effectively needs enhancing.

- Micro-credit schemes available for financing community water projects should be supported by donors, MFIs and external NGOs through the provision of seed capital, initial reserves and guarantees. Continuing subsidies should, however, be avoided.

- External NGOs should propose ways of raising more funds through the various kinds of solidarity mechanisms for channeling to their local partners.

- A full study should be conducted of the feasibility of creating a Decentralised Fund for the Development of Local Initiatives.

Implementation of the proposals

- 2006 should be the first check-point on the route to 2015. This would be an opportunity to review the measures endorsed at Kyoto and at subsequent gatherings, and actions taken to implement them.
- 2015 should be the next essential check-point, opening the third stage of a strategy leading to universal access and sanitation by 2025.
- A "global control tower" should be established to monitor and report on the progress made towards achievement of the MDGs for water and sanitation, and the performance of the main parties involved in implementing and funding these activities. To complement this, a

Endnotes

1. November 2002. General Comment No. 15.

2. WHO/UNICEF/WSSCC "Global water supply and sanitation assessment 2000 Report".

3. Reviewed in "Water security: a preliminary assessment of policy progress since Rio," World Water Assessment Programme, 2001. Also the "World Water Development Report" 2002, by the same organisation.

4. "Integrated Water Resource Management" TAC Background Papers No 4, GWP 2000.

5. Particularly "World water vision: making water everybody's business" by William Cosgrove and Frank Rijsberman.

6. "We the peoples: the role of the United Nations in the 21st Century". Kofi A.Annan, UN, 2000.

7. "Towards water security: a Framework for Action". GWP, 2000.

8. Cf Suez "Bridgeing the Water Divide" 2001.

9. The Report of the High-Level Panel on Financing for Development (the "Zedillo Report") concluded that no additional funding would be necessary to achieve the MDG for water. This panel believes this is an unduly optimistic view. Once explicit accouint is taken of the need for sanitation measures to accompany basic water supply, present spending, which includes very little sanitation, clearly needs to double.

10. Unofficial estimates by WSSCC. The World Bank estimates an additional $11 billion p.a. will be required for the Millennium target (total $26.7 billion. p.a., quoted by J.Saghir at WB Water Forum 2002).

11. Luc Averous, "Financing water infrastructure: World Water Panel" Lehman Brothers, October 2002.

12. OECD DAC data.

13. Prior to this, an opposing view, reached among much controversy, was encapsulated in "Dams and development: a new framework for decision-making", the report of the World Commission on Dams, November 2000.

14. World Bank estimates.

15. African Development Bank estimates.

16. FAO, "Agriculture: towards 2015 and 2030".

17. "World Water and Food to 2025: dealing with scarcity" by Rosegrant, Cai & Cline. IFPRI, 2002.

18. "Getting the water to where its needed and getting the tariff right", by P.Prynn & H.Sunman, 2000.

19. K.Cleaver & F.Gonzalez, "Challenges for Financing Irrigation and Drainage" World Bank 2002.

20. Briscoe, op. cit.

21. Guillermo Yepes, "Pricing policies in the water and sanitation sector. Implementation Review. A background paper prepared for OED" April 2002.

22. "Efficient, sustainable service for all? Evaluating the World Bank Assistance to the water supply and sanitation sector. OED review of the portfolio" April 2002.

23. World Bank PPI database.

24. For example the full coverage of la Paz-El alto cities in Bolivia.

25. The GWP Toolbox includes a number of exemplary cases of reform.

26. How many sewage works are named after politicians?

27 This is a conclusion to be drawn from the recent World Bank OED Review, "Thirty years of Bank assistance in water supply and sanitation", 2002, which covers a sample which is probably better than average for the sector. The World Bank data set of 246 water utilities in 51 countries shows that the average Working Ratio (of costs as a % of revenues) exceeds 1 for three-quarters of the sample.

28. Luc Averous, presentation to panel, 9 October 2002.

29. Unpublished IFC paper for the panel, "The unique risks of financing water and sanitation projects".

30. Presentation by Barry Trembath to panel, 7 June 2002

31. According to internal IFC data, typical % rates of return are: water 5–10, toll roads 15–20, telecommunications 25–30 and power 17–25.

32. William Jones, "The World Bank and Irrigation", OED, 1995. Reported by Henri Carsalade in presentation to panel, 25 nov, 2002.

33. Lidia Polakovic, "Water utilities' ratings in emerging markets". Presentation to panel, 9 oct, 2002.

34. This follows a recommendation of the CEO Panel, which has made a detailed proposal for such pools, although without 'joint and several' liability.

35. Antonio Vives, "Pension funds in infrastructure project finance: regulations and instrument design" Journal of Project Finance, Summer 1999.

36. A point made by David Boys in a presentation to the panel, 21 January 03. Also, Antonio Vives, "Pension funds in infrastructure project finance: regulations and instrument design" Technical Paper of IADB, Washington, 2000.

37. Alfredo Pascual, "Tariff reform," a paper on AsDB experience presented to the panel, January 2003.

38. We follow the customary, though geographically inaccurate, habit of using North to denote a developed country, and South a developing one.

39. This proposal contrasts with the concept of Output-Based Aid, which is paid after the work is done. There will be scope for both approaches, depending on circumstances.

40. The UK's DFID has several proposals with a bearing on this, such as the Emerging Africa Infrastructure Fund, and the DevCo Project Development Facility. In addition, the Public-Private Infrastructure Advisory Facility is a multidonor facility hosted by the World Bank.

41. Partnerships UK has also worked on this issue.

42. "Contracting for public services: output-based aid and its applications", eds. Penelope Brook & Suzanne Smith.. World Bank, 2001.

43. Contribution by Peter Woike to panel, Feb 2003.

44. Principally the following public international financial development agencies: The World Bank family of organisations (including IBRD, IFC, IDA and MIGA), EBRD, IADB, AsDB, AfDB, the Islamic Development Bank, and EIB including the "soft windows" of these organisations offering funds on concessional terms.

45. The MFI system of B-loans and Preferred Creditor Status, which confers on other lenders the same privileges as the MFI enjoys, is also relevant here.

46. World Bank, "Water Resources Sector Strategy", 2002.

47. Source: Project Finance International, January 2001, January 2002 and January 2003.

48. The MFIs' system of B-loans and Preferred Creditor Status, which confers on other lenders the same privileges as the MFI enjoys, is also relevant here.

49. This figure and the accompanying text were contributed by Robert Welford.

50. BIS information is available at website www.bis.org. Index of Quantitative Impact Study documentation http://www.bis.org/bcbs/qis/index.htm. Press release http://www.bis.org/press/p021001.htm. October 2002 Overview available at http://www.bis.org/bcbs/qis/qis3ovrv.pdf. Technical guidance http://www.bis.org/bcbs/qis/qis3tech.pdf.

51. AsDB, "The role of small scale private water providers in serving the poor". Summary provided to the panel, January 2003.

52. OPIC has been working on a Foreign Exchange Liquidity Guaranty for Debt Transactions, described in a presentation to the panel by Ms Mitchell Strauss, June 2002.

53. E.g. the Pakistan Exchange Risk Insurance Scheme operating in the 1990s, used for the Hub power project.

54. The panel had presentations on this initiative and on the work of Eau Vive in the Sahel at its meeting in The Hague, October 2002.

55. Private sector involvement in sewage treatment seems to be a less emotive subject than for fresh water.